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Attorneys for Plaintiff/Counterclaim Defendant
Kraft Foods Holdings, Inc. and Third Party
Defendant Kraft Foods Global, Inc.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

KRAFT FOODS HOLDINGS, INC.,

Plaintiff,

v.

THE PROCTER & GAMBLE COMPANY,

Defendant.

THE PROCTER & GAMBLE COMPANY,

Counterclaim Plaintiff,

v.

KRAFT FOODS HOLDINGS, INC.

Counterclaim Defendant

and

KRAFT FOODS GLOBAL, INC.

Third-Party Defendant.

CASE NO. C 08-930 PJH

**DECLARATION OF EVETTE D.
PENNYPACKER IN SUPPORT OF
KRAFT'S MOTION FOR A STAY**

DATE: April 9, 2008
TIME: 9:00 a.m.
PLACE: Courtroom 3, 17th Floor
JUDGE: Hon. Patricia J. Hamilton

1 I, Evette D. Pennypacker, declare as follows:

2 1. I am an attorney licensed to practice law in the State of California. I am a partner
3 of the law firm Quinn Emanuel Urquhart Oliver & Hedges, LLP, counsel of record for
4 Plaintiff/Counterclaim Defendant Kraft Foods Holdings, Inc. ("KFH") and Third Party Defendant
5 Kraft Foods Global, Inc. ("KFG") (collectively "Kraft") in this matter. I make this declaration in
6 support of Kraft's Motion for a Stay. I have personal knowledge of the facts stated herein and if
7 called to testify could and would competently testify thereto.

8 2. Attached hereto as Exhibit A is a true and correct copy of the complaint filed by
9 The Procter & Gamble Company ("P&G") in the matter The Procter & Gamble Company v. Kraft
10 Foods Global, Inc., United States District Court for the Northern District of California, Case No.
11 07-cv-4413-PJH.

12 3. Attached hereto as Exhibit B is a true and correct copy of U.S. Patent Number
13 7,169,418.

14 4. Attached hereto as Exhibit C is a true and correct copy of the motion for
15 preliminary injunction filed by P&G in the matter The Procter & Gamble Company v. Kraft Foods
16 Global, Inc., United States District Court for the Northern District of California, Case No. 07-cv-
17 4413-PJH.

18 5. Attached hereto as Exhibit D is a true and correct copy of the October 11, 2007
19 order granting a stay in the matter of The Procter & Gamble Company v. Kraft Foods Global, Inc.,
20 United States District Court for the Northern District of California, Case No. 07-cv-4413-PJH.

21 6. Attached hereto as Exhibit E is a true and correct copy of the PTO's June 7, 2007
22 Action Closing Prosecution ("ACP") on the *inter partes* reexamination of U.S. Patent Number
23 7,169,418.

24 7. Attached hereto as Exhibit F is a true and correct copy of the PTO's January 14,
25 2008 Right to Appeal Notice ("RAN") regarding the ACP issued in the *inter partes* reexamination
26 of U.S. Patent Number 7,169,418.

27 8. Attached hereto as Exhibit G is a true and correct copy of Kraft's February 14,
28 2008 Notice of Appeal to the Board of Patent Appeals and Interferences regarding the ACP issued

1 in the *inter partes* reexamination of U.S. Patent Number 7,169,418. This appeal remains pending
2 and the *inter partes* reexamination is not yet final.

3 9. Attached hereto as Exhibit H is a true and correct copy of excerpts from Kraft's
4 January 18, 2008 request for *ex parte* reexamination of U.S. Patent Number 7,169,418. This
5 request remains pending and the *ex parte* reexamination is not yet final.

6 10. Attached hereto as Exhibit I is a true and correct copy of P&G's answer and
7 counterclaims to the first amended complaint filed by KFH in the matter Kraft Foods Holdings,
8 Inc. v. The Procter & Gamble Company, United States District Court for the Western District of
9 Wisconsin, Case No. 07-cv-613-jcs.

10 11. Attached hereto as Exhibit J is a true and correct copy of U.S. Patent Number
11 7,169,419.

12 12. Attached hereto as Exhibit K is a true and correct copy of P&G's Initial
13 Disclosures, including its "Preliminary Infringement Contentions," that P&G served in the matter
14 Kraft Foods Holdings, Inc. v. The Procter & Gamble Company, United States District Court for
15 the Western District of Wisconsin, Case No. 07-cv-613-jcs.

16 13. Attached hereto as Exhibit L is a true and correct copy of an Order dated January
17 24, 2008, in the matter Kraft Foods Holdings, Inc. v. The Procter & Gamble Company, United
18 States District Court for the Western District of Wisconsin, Case No. 07-cv-613-jcs, transferring
19 certain counterclaims and third party complaints filed by P&G to the United States District Court
20 for the Northern District of California.

21 I declare under penalty of perjury under the laws of the United States that the above
22 statements are true and correct. Executed this 5th day of March, 2008, in the City of Redwood
23 Shores, California.

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1 DATED: March 5, 2008

QUINN EMANUEL URQUHART OLIVER &
HEDGES, LLP

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3 By //s//

4 Attorneys for Plaintiff/Counterclaim Defendant
5 Kraft Foods Holdings, Inc. and Third Party
6 Defendant Kraft Foods Global, Inc.
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CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA4 (14)
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E-Filing

11 Attorneys for Plaintiff
 The Procter & Gamble Company

13 UNITED STATES DISTRICT COURT
 14 NORTHERN DISTRICT OF CALIFORNIA
 15 SAN FRANCISCO DIVISION

C 07

4413

Case No.:

JCS

17 THE PROCTER & GAMBLE COMPANY,

18 Plaintiff,

19 v.

20 KRAFT FOODS GLOBAL, INC.,

21 Defendant.

COMPLAINT FOR PATENT
INFRINGEMENT; DEMAND FOR JURY
TRIAL

DEMAND FOR JURY TRIAL

22
 23 Plaintiff The Procter & Gamble Company ("P&G"), for its Complaint against defendant Kraft

24 Foods Global, Inc. ("Kraft"), alleges as follows:

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Case No.

Complaint; Demand For Jury Trial

HOWREY LLP

FAXED

THE PARTIES

1. Plaintiff P&G is an Ohio corporation with its principal place of business in Cincinnati, Ohio.

2. Defendant Kraft is a Delaware corporation with its principal place of business in Northfield, Illinois.

JURISDICTION

3. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, including 35 U.S.C. § 271 *et seq.* The Court has personal jurisdiction over Kraft because the acts complained of have taken place in this district, including, on information and belief, through Kraft's manufacture of infringing products at its plant in San Leandro, California. Kraft has established minimum contacts with this district such that the exercise of jurisdiction over Kraft would not offend traditional notions of fair play and substantial justice.

VENUE

4. Kraft does business in this district, including, on information and belief, by manufacturing infringing products at its plant located in San Leandro, California, and by providing infringing products that are sold in this district. Venue is proper in this district pursuant to 28 U.S.C. §§ 1331, 1391(b), (c) and 1400(b).

INTRADISTRICT ASSIGNMENT

5. On information and belief, Kraft manufactures infringing products at its San Leandro plant, located in Alameda County. Pursuant to Civil Local Rule 3-2(c), because this is an Intellectual Property Action, it can be assigned to the San Francisco Division.

INFRINGEMENT OF U.S. PATENT NO. 7,169,418

6. On January 30, 2007, the United States Patent & Trademark Office ("USPTO") duly and legally issued United States Patent 7,169,418 ("the '418 Patent"), entitled "Packaging system to provide fresh packed coffee." The '418 Patent was issued to inventors David Dalton, James Smith, James Bono, Sameer Mungur, Douglas Zeik, Aisha Barry, and Jennifer Ruth Floyd. These inventors have assigned all rights and interest in the '418 Patent to P&G. A true and correct copy of the '418

1 patent is attached hereto as Exhibit A.

2 7. Kraft has infringed and continues to infringe the '418 Patent. The infringing acts
3 include at least manufacturing, using, selling, and/or offering to sell 39-ounce plastic containers of
4 Maxwell House brand coffee. Kraft is liable for infringement of the '418 Patent pursuant to 35 U.S.C.
5 § 271.

6 8. Kraft's acts of infringement have caused and are causing damage to P&G. P&G is
7 entitled to recover from Kraft the damages sustained by P&G as a result of Kraft's infringement in an
8 amount to be proven at trial. Kraft's infringement of P&G's rights under the '418 Patent also is
9 causing, and will continue to cause, irreparable harm to P&G's business, for which there is no
10 adequate remedy at law, unless P&G is enjoined by this Court.

11 9. Upon information and belief, Kraft's infringement of the '418 Patent is willful and
12 deliberate, entitling P&G to increased damages under 35 U.S.C. § 284 and attorney fees incurred in
13 prosecuting this action under 35 U.S.C. § 285.

14 **PRAYER FOR RELIEF**

15 WHEREFORE, Plaintiff P&G prays for judgment and seeks relief against Defendant Kraft as
16 follows:

- 17 (a) For judgment that the '418 Patent has been infringed by Kraft;
- 18 (b) For preliminary and permanent injunctions enjoining the aforesaid acts of infringement
19 by Kraft, its officers, agents, servants, employees, subsidiaries and attorneys, and those
20 persons acting in concert with Kraft, including related individuals and entities,
21 customers, representatives, dealers, and distributors;
- 22 (c) For an award of actual damages;
- 23 (d) For an award of pre-judgment and post-judgment interest, according to proof;
- 24 (e) For an award of enhanced damages pursuant to 35 U.S.C. § 284;
- 25 (f) For an award of attorney fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by
26 law;
- 27 (g) For all costs of suit; and

28 ///

1 (h) For such other and further relief as the Court may deem just and proper.

2
3 DATED:

August 27, 2007

Respectfully submitted,

4
5
6 By



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JURY DEMAND

P&G demands a jury trial on all issues that are triable by right to a jury.

DATED:

August 27, 2007

Respectfully submitted,

By



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EXHIBIT A: U.S. Patent No. 7,169,418

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US007169418B2

(12) **United States Patent**
Dalton et al.

(10) **Patent No.:** US 7,169,418 B2
(45) **Date of Patent:** *Jan. 30, 2007

(54) **PACKAGING SYSTEM TO PROVIDE FRESH
PACKED COFFEE**

(75) **Inventors:** David Andrew Dalton, Loveland, OH (US); James David Smith, Loveland, OH (US); James Lee Bono, Cincinnati, OH (US); Sameer Mungur, Cincinnati, OH (US); Douglas Bruce Zolk, Middletown, OH (US); Aisha Barry, Mason, OH (US); Jennifer Ruth Ralston Floyd, West Chester, OH (US)

(73) **Assignee:** The Procter and Gamble Company, Cincinnati, OH (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 304 days.

This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 10/155,338

(22) **Filed:** May 24, 2002

(65) **Prior Publication Data**
US 2003/0010787 A1 Jan. 16, 2003

Related U.S. Application Data

(60) Provisional application No. 60/295,666, filed on Jun. 4, 2001.

(51) **Int. Cl.**
B65D 83/10 (2006.01)
B65D 85/10 (2006.01)

(52) **U.S. Cl.** 426/110; 220/366.1; 220/495.03; 426/118; 426/127

(58) **Field of Classification Search** 426/110, 426/118, 127, 126, 395, 396, 398; 220/495.03, 220/227, 366.1

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Primary Examiner—Arthur L. Corbin

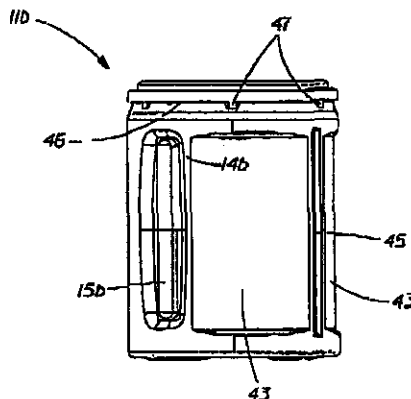
(74) **Attorney, Agent, or Firm**—Ingrid N. Hackert; Carl J. Roof; Peter D. Meyer

(57) **ABSTRACT**

A fresh packaging system for roast and ground coffee having a top load capacity of at least about 16 pounds (7.3 Kg) comprising a container with a closed bottom, an open top, and a body enclosing a perimeter between the bottom and the top. A protuberance is continuously disposed around the perimeter of the body proximate to the top and forms a ridge external to the body. A flexible closure is removably attached and sealed to the protuberance so that the closure seals the interior volume of the container. The container bottom and container body are constructed from a material having a tensile modulus number ranging from at least about 35,000 to at least about 650,000 pounds per square inch (at least about 2,381 to at least about 44,230 atm).

See application file for complete search history.

55 Claims, 7 Drawing Sheets



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U.S. Patent

Jan. 30, 2007

Sheet 1 of 7

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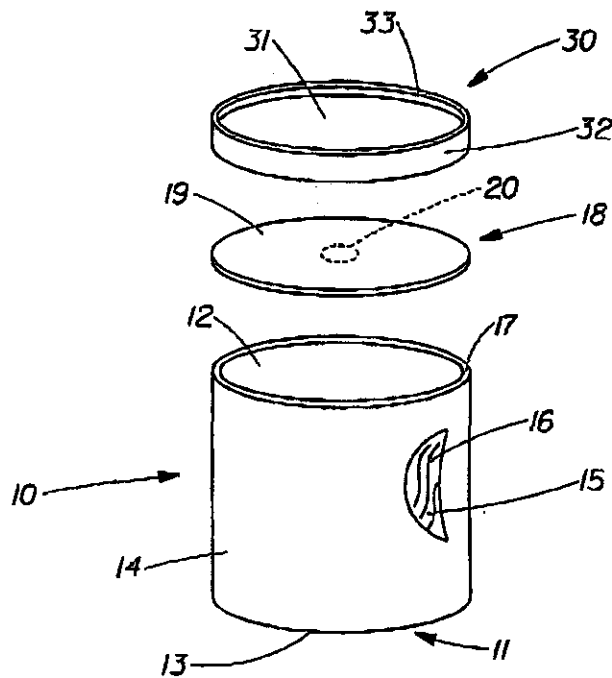


Fig. 1

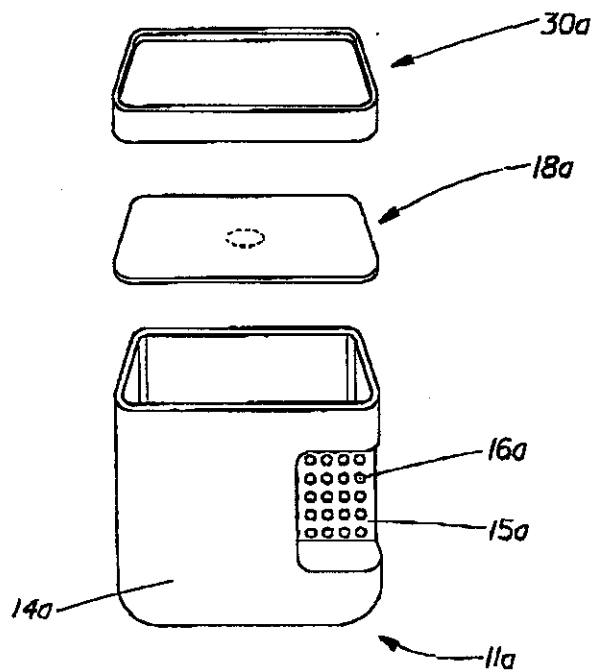


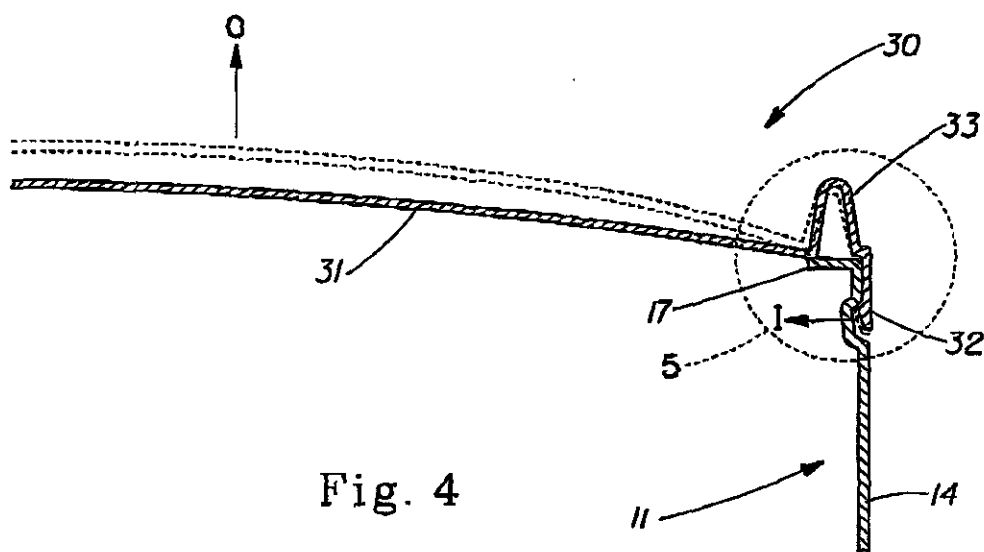
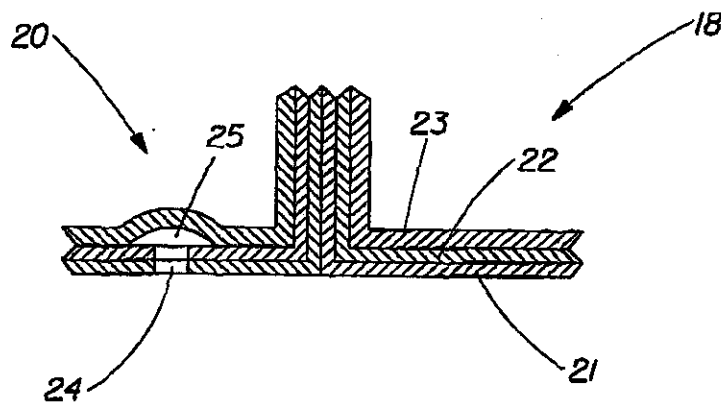
Fig. 2

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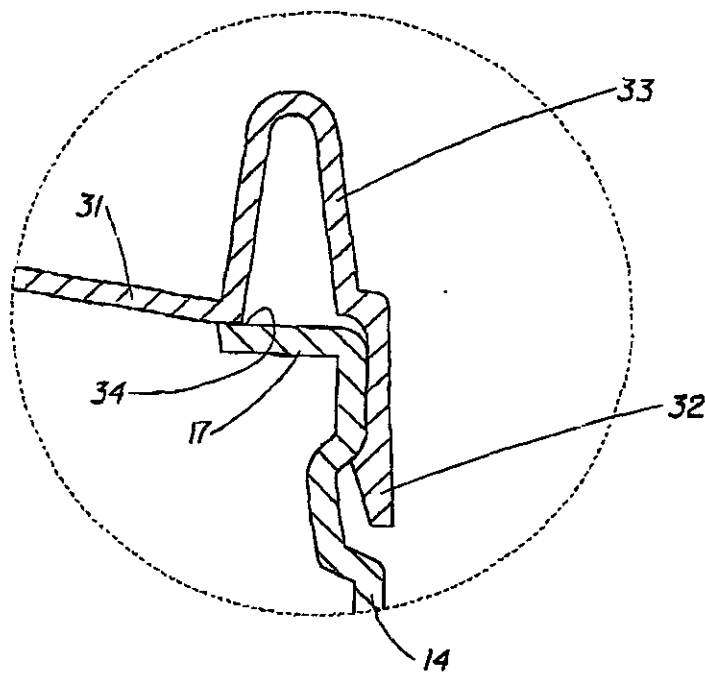
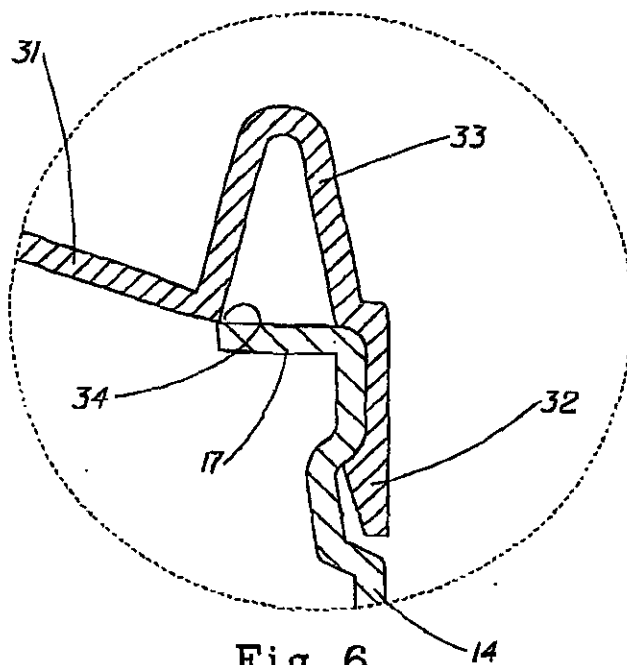
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Sheet 3 of 7

US 7,169,418 B2**Fig. 5****Fig. 6**

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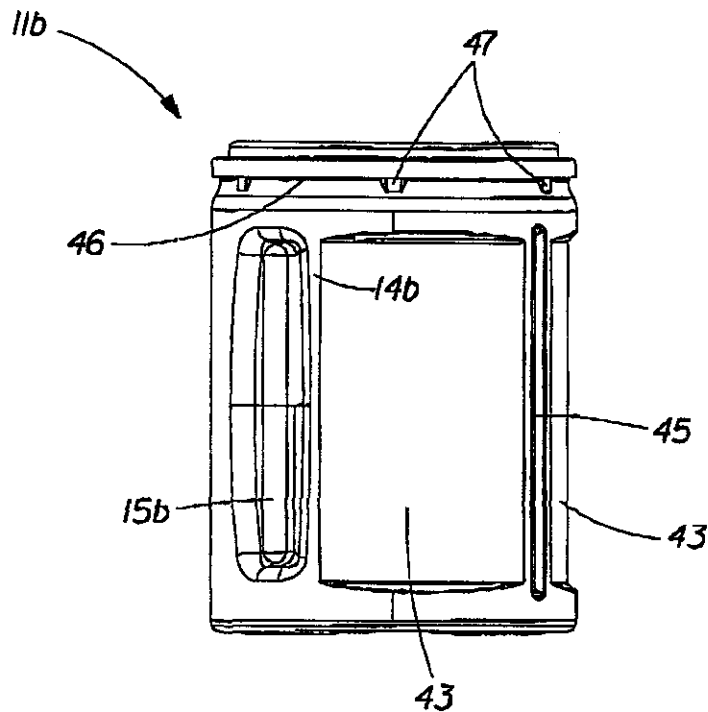


Fig. 7

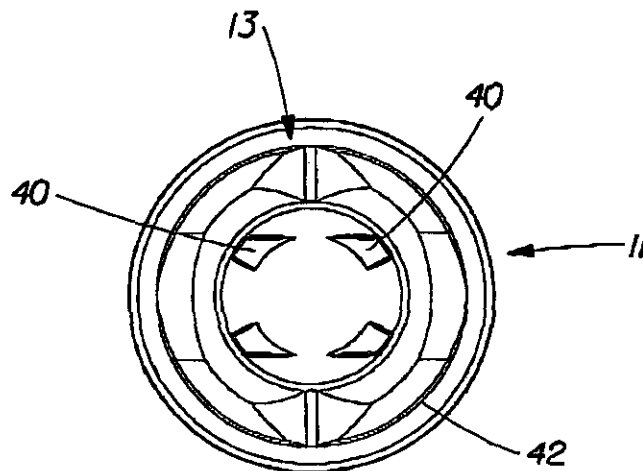


Fig. 7A

U.S. Patent

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Sheet 5 of 7

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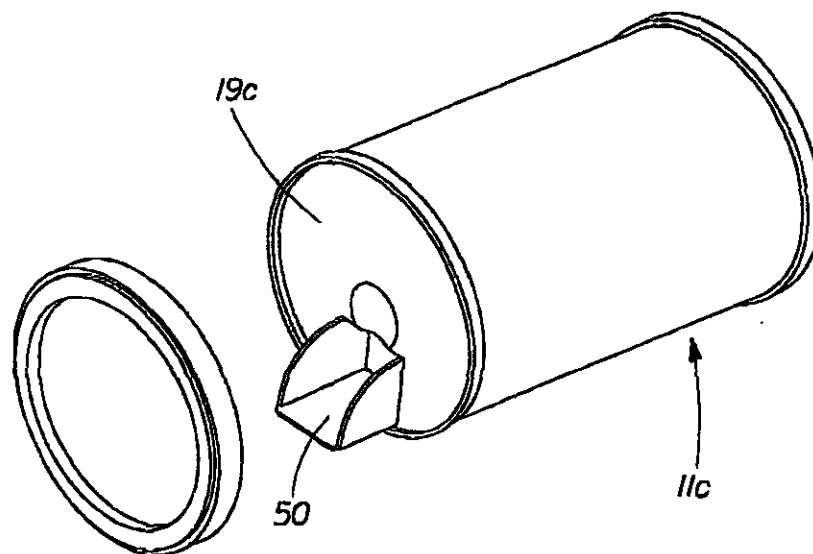


Fig. 8

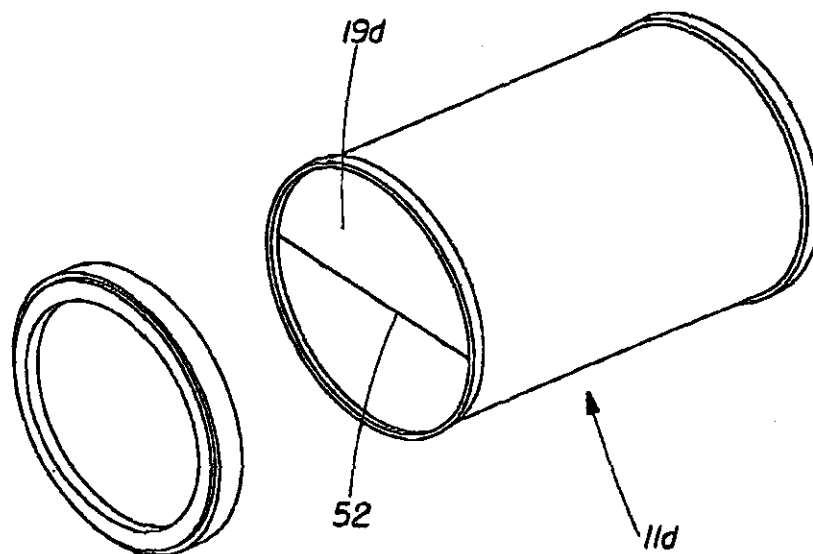


Fig. 8A

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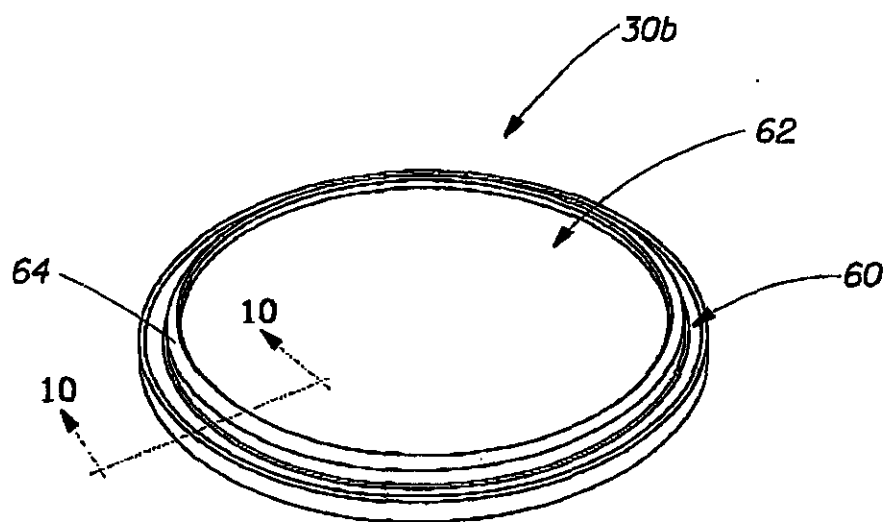


Fig. 9

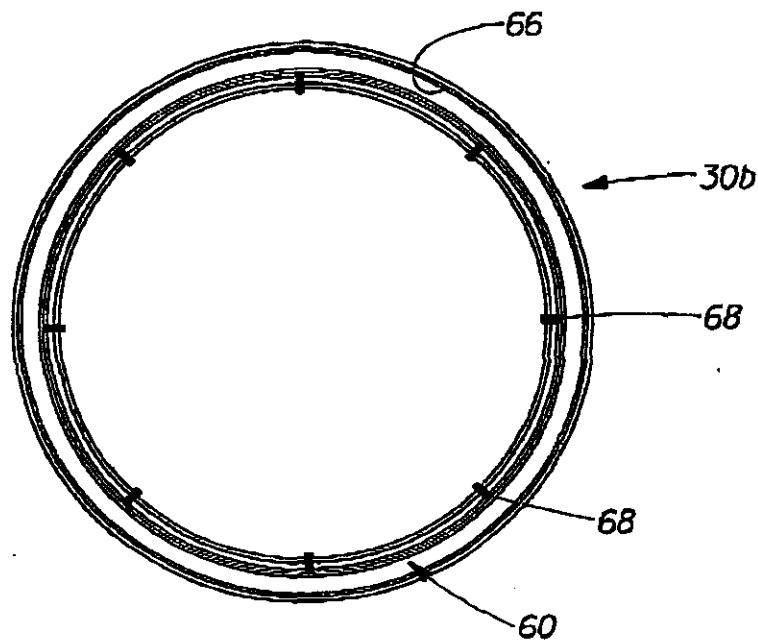


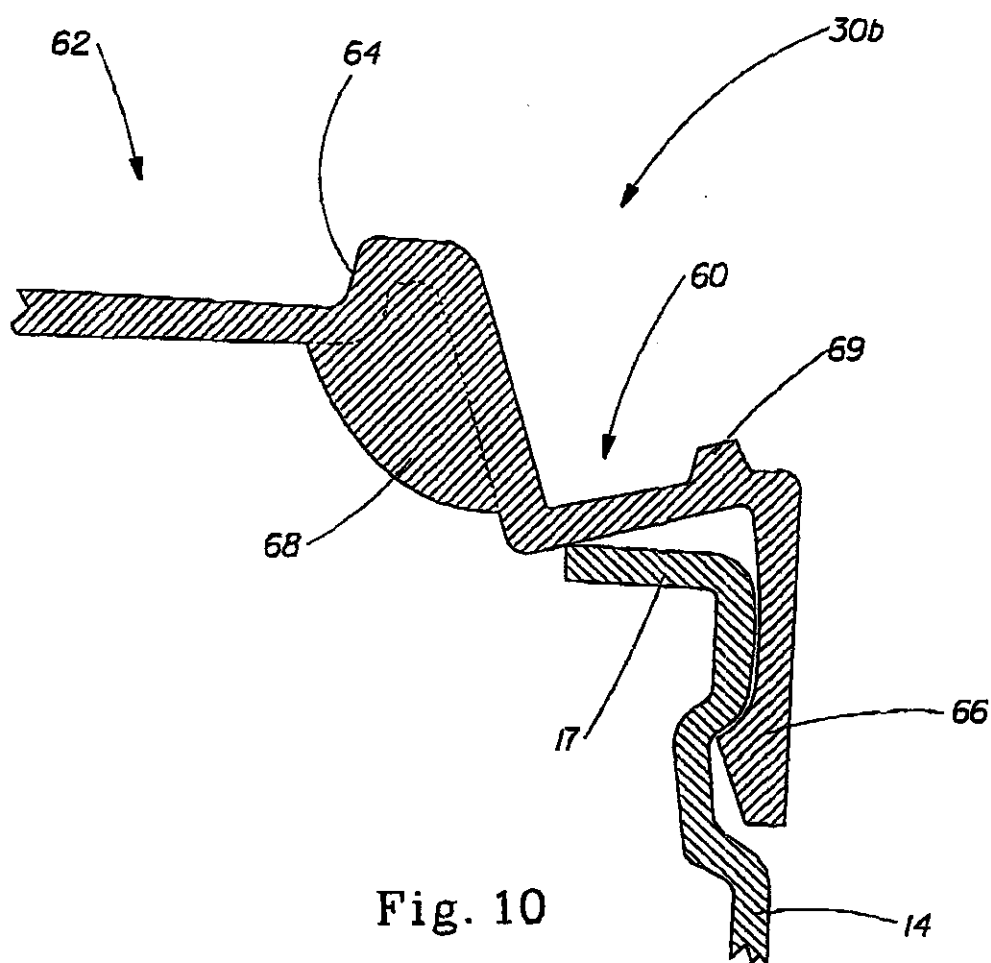
Fig. 9A

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PACKAGING SYSTEM TO PROVIDE FRESH PACKED COFFEE

PRIORITY

This application claims priority to Provisional Application No. 60/295,666 filed on Jun. 4, 2001, the entirety of which is hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention relates to a fresh packaging system useful for packing fresh roast and ground coffee. The present invention still further relates to a more convenient, lightweight, and handled container that provides increased strength per mass unit of plastic for the transport of freshly roast and ground coffee. More particularly, the present invention relates to a method for providing a consumer with a fresher packed roast and ground coffee that provides a more pleasant aroma upon opening of the package and a perceived longer-lasting aroma after repeated and sustained openings.

BACKGROUND OF THE INVENTION

Packages such as cylindrical cans for containing a particulate product under pressure, such as roast and ground coffee, are representative of various articles to which the present invention is applicable. It is well known in the art that freshly roasted and ground coffee evolves substantial amounts of oils and gases, such as carbon dioxide, particularly after the roasting and grinding process. Therefore, roast and ground coffee is usually held in storage bins prior to final packing to allow for maximum off gassing of these volatile, natural products. The final coffee product is then placed into a package and subjected to a vacuum packing operation.

Vacuum packing the final coffee product results in reduced levels of oxygen in the headspace of the package. This is beneficial, as oxygen reactions are a major factor in the staling of coffee. A common package used in the industry is a cylindrical, un-plated, and steel stock can. The coffee is first roasted, and then ground, and then vacuum packed within a can, which must be opened with a can opener, common to most households.

Packing coffee immediately after roasting and grinding provides substantial process savings, as the coffee does not require storage to complete the off-gas process. Also, the off-gas product usually contains high quantities of desirable volatile and semi-volatile aromatic compounds that easily volatilize and prevent the consumer from receiving the full benefit of the coffee drinking process. Furthermore, the loss of these aromatic compounds makes them unavailable for release in a standard container, thereby preventing the consumer from the full reception of the pleasurable burst of aromas of fresh roast and ground coffee. This aroma burst of volatile compounds is much more perceptible in a pressurized package than in a vacuum packed package.

It is therefore an object of the present invention to provide a handled package for roast and ground coffee that provides a lighter weight, fresher packing, easier-opening, peelable seal, and "burpable" closure alternative to a standard heavy can.

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SUMMARY OF THE INVENTION

The present invention relates to a fresh packaging system for roast and ground coffee. The packaging system comprises a container with a closed bottom, an open top, and a body enclosing a perimeter between the bottom and the top. The top, bottom, and body together define an interior volume. A protuberance is continuously disposed around the perimeter of the body proximate to the top and forms a ridge external to the body. A flexible closure is removably attached and sealed to the protuberance. The container bottom and container body are constructed from a material having a tensile modulus number ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm). The container has a top load capacity of at least about 16 pounds (7.3 Kg).

The present invention also relates to a method for packing coffee using the fresh packaging system for roast and ground coffee. The method steps include filling the container with roast and ground coffee, flushing the container with an inert gas, and, sealing the container with the flexible closure.

The present invention also relates to an article of manufacture that provides the end user with beneficial coffee aroma characteristics. The article comprises a closed bottom, an open top, and a body forming an enclosed perimeter between said bottom and top. The bottom, top, and body together define an interior volume. The body includes a protuberance continuously disposed around the perimeter of the body proximate to the top. The bottom and body are constructed from a polyolefin. A flexible closure is removably attached to the protuberance so that the closure forms a seal with the protuberance. Roast and ground coffee is contained within the interior volume, and, the article of manufacture exhibits an overall coffee aroma value of at least about 5.5.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded perspective view of a preferred embodiment of the fresh packing system in accordance with the present invention;

FIG. 2 is an exploded perspective view of an alternative embodiment of the fresh packing system;

FIG. 3 is a cross-sectional view of an exemplary closure and one-way valve assembly for the fresh packing system;

FIG. 4 is a cross-sectional view of an exemplary overcap assembly for a fresh packing system;

FIG. 5 is an expanded, cross-sectional view of the region labeled 5 in FIG. 4 of the overcap in an applied position;

FIG. 6 is an expanded, cross-sectional view of the region labeled 5 in FIG. 4 of the overcap in an expanded position;

FIG. 7 is an elevational view of an alternative embodiment of the fresh packing system;

FIG. 7A is a bottom planar view of the embodiment of FIG. 7;

FIG. 8 is a perspective view of an alternative embodiment of the fresh packing system;

FIG. 8A is a perspective view of an alternative embodiment of the fresh packing system;

FIG. 9 is an isometric view of an alternative exemplary overcap for use with a fresh packing system;

FIG. 9A is a bottom planar view of the alternative exemplary overcap of FIG. 9; and,

FIG. 10 is a cross-sectional view of the region labeled 10 in FIG. 9 in contact with a fresh packaging system

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DETAILED DESCRIPTION OF THE INVENTION

The present invention is related to a fresh packaging system for roast and ground coffee. The packaging system comprises a container comprising a closed bottom, and open top and a body having an enclosed perimeter between the bottom and the top where the top, bottom, and body together define an interior volume. A flexible closure is removably attached and sealed to a protuberance disposed around the perimeter of the body proximate to the top. The container bottom and body are constructed from a material having a tensile modulus number ranging from at least about 35,000 (2,381 atm) pounds per square inch to at least about 650,000 pounds per square inch (44,230 atm), which provides a top load capacity of at least about 16 pounds (7.3 Kg).

The invention is more generally related to a method for the packing of coffee using the container of the present invention. The method steps include filling the container system described above with roast and ground coffee, flushing the container with an inert gas, and, sealing the container with a flexible closure.

The invention is also related to an article of manufacture that provides the end user with beneficial coffee aroma characteristics. The article comprises a closed bottom, an open top, and a polyolefin body forming an enclosed perimeter between said bottom and top together defining an interior volume. The body includes a protuberance continuously disposed around the perimeter of the body proximate to the top. A flexible closure is removably attached to the protuberance so that the closure forms a seal with the protuberance. Roast and ground coffee is contained within the interior volume and, the article of manufacture has an overall coffee aroma value of at least about 5.5. (A method for measuring the overall coffee aroma value is described in the Test Methods section, *infra*.)

The purpose of the present invention, inventive method, and article of manufacture is to provide a useful benefit to the user that includes, but is not limited to, providing a roast and ground coffee with a perceived more fresh and aromatic flavor. Such a container system of the present invention also provides an easy to use and low cost means of delivery of a roast and ground coffee to an end user.

Preferably, but optionally, the container has a handle element disposed thereon. More preferably the handle element is integral with the body of the container. This handle element facilitates gripping of the container system by the end user. This gripping is particularly useful for users with small hands or hands in a weakened condition due to illness, disease, or other medical malady.

Optionally, but preferably, the present invention features a one-way valve located within the closure to release excess pressure built up within the container due to the natural off gas process of roast and ground coffee. It is also believed that changes in external temperature and altitude can also cause the development of pressure internal to the container. The one-way valve is selected to release coffee off gas in excess of a predetermined amount however, remains sealed after such a release, thereby retaining an aromatically pleasing amount of off gassed product within the container.

Another optional, but preferred, feature of the present invention is an overcap placed over the closure. The overcap can comprise a dome, or cavity, that allows positive, outward deformation of the closure due to the pressure build-up within the container. The overcap is also airtight and flexible to allow for easy application in manufacture, either with, or without, a closure, and by the end user, after end user

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removal, of a closure. The flexible overcap also allows the end user to remove excess air by compressing the dome, thereby releasing excess ambient air from the previously open container (burping). The overcap also provides for a tight seal against the rim of the container after opening by the end user. This tight seal prevents pollution of the rim, resulting in an undesirable expectation of the overcap after application. The overcap can also optionally allow for stacking several container embodiments when the closure and the dome portion of the overcap are at a point of maximum deflection. The overcap also optionally has a vent to allow for easy removal of vented off gas product trapped between the closure and overcap assemblies, but still allows for "burping."

Also, the overcap can have a rib disposed proximate to and along the perimeter of the overcap defining an inner dome portion and an outer skirt portion. The rib forms a hinge-like structure so that outward deflection of the inner dome portion caused by deflection of the closure due to coffee off gassing causes the rib to act as a cantilever for the skirt portion. Thus, outward deflection of the dome portion causes the skirt portion to deflect inwardly on an outer portion of the container wall, resulting in an improved seal characteristic and improves retaining forces of the overcap with respect to the container.

The Container

Referring to FIG. 1, fresh packaging system 10, generally comprises a container 11 made from a compound, for example, a polyolefin. Exemplary and non-limiting compounds and polyolefins that can be used for producing the present invention include polycarbonate, low-density polyethylene, high-density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, copolymers thereof, and combinations thereof. It should be realized by one skilled in the art that container 11 of the present invention can take any number of shapes and be made of any number of suitable materials. Container 11 generally comprises an open top 12, a closed bottom 13, and a body portion 14. Open top 12, closed bottom 13, and body portion 14 define an interior volume in which a product is contained. Also, closed bottom 13 and body portion 14 are formed from a material having a tensile modulus ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm), more preferably from at least about 40,000 pounds per square inch (2,721 atm) to at least about 260,000 pounds per square inch (17,692 atm), and most preferably ranging from at least about 95,000 pounds per square inch (6,464 atm) to at least about 150,000 pounds per square inch (10,207 atm). Tensile modulus is defined as the ratio of stress to strain during the period of elastic deformation (i.e., up to the yield point). It is a measure of the force required to deform the material by a given amount and is thus, a measure of the intrinsic stiffness of the material.

It is preferred that bottom portion 13 be disposed concave inwardly, or recessed, towards the interior volume so that undesirable deflections caused by pressure increases within the interior volume are minimized. If the bottom 13 expands outwardly sufficiently, causing the bottom 13 to concave outwardly, then the container 11 will develop what is generally referred to in the art as "rocker bottom." That is, if the bottom 13 deflects outwardly so that the container system 10 will not be stable while resting on a flat surface, fresh packaging system 10 will tend to rock back and forth.

As shown in FIG. 7A, a plurality of protrusions 40 can be disposed on the closed bottom 13 of container 11 about the

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longitudinal axis of container 11. In a preferred embodiment, protrusions 40 form an oblique angle with the closed bottom 13 of container 11. If the container 11 assumes a cylindrical shape, it is believed that protrusions 40 can be rectilinearly disposed about the diameter of the closed bottom 13 of container 11. However, one of skill in the art would realize that protrusions 40 could be disposed on the closed bottom 13 of container 11 in any geometrical arrangement. Without wishing to be bound by theory, it is believed that protrusions 40 can protrude past the geometry of the closed bottom 13 of container 11 upon an outward deflection of the closed bottom 13 of container 11. In this way container 11 can maintain a stable relationship with other surfaces should "rocker bottom" be realized upon the development of an outward pressure from within container 11. While the preferred embodiment utilizes four protrusions 40 disposed on closed bottom 13, it should be realized by one of skill in the art that virtually any number of protrusions 40 could be disposed on closed bottom 13 to yield a stable structure upon outward deflection of closed bottom 13. Additionally, protrusions 40 could be a square, triangular, elliptical, quadrilateral, pentagonal, trapezoidal, arranged in multiply nested configurations, provided in an annular ring about closed bottom 13, and combinations thereof.

Again referring to FIG. 7A, an annular ring 42, or any other raised geometry, including interrupted geometrical configurations, can be disposed on closed bottom 13 of container 11. Annular ring 42 could be dimensioned to facilitate nesting, or stacking, of multiple embodiments of containers 11. In other words, annular ring 42 could be designed to provide serial stacking of a container 11 onto the overcap 30 of the preceding, or lower, container 11. Without wishing to be bound by theory, it is believed that the facilitation of nesting by the use of annular ring 42 disposed on closed bottom 13 of container 11 provides enhanced structural stability.

It is also believed that the closed bottom 13 of container 11 could be designed, in what is known to those of skill in the art, as a quad lobe, or pentagonal. Again, without desiring to be bound by theory, it is believed that such a quad lobe, or pentagonal, design could provide enhanced ability to resist the deformation of closed bottom 13 of container 11 due to internal pressures developed within container 11.

Referring again to FIG. 1, container 11 can be cylindrically shaped with substantially smooth sides. Handle portions 15 are respectively formed in container body portion 14 at arcuate positions. A plurality of anti-slip strips 16 can be formed at a predetermined interval within handle portions 15. Handle portions 15 are formed as would be known to one skilled in the art to provide a gripping surface at a most efficacious position to enable users with small hands or debilitating injuries or maladies to grip container portion 11 with a minimum of effort. Further, container 11 can be readily grasped by hand due to the configuration described above. Additionally, container 11 can have a prominance 17 in the form of a rim like structure disposed at the open end of container 11. Prominance 17 can provide a surface with which to removably attach closure 18 and provide a locking surface for skin portion 32 of overcap 30.

In an alternative embodiment as shown in FIG. 2, container 11a is parallelepiped shaped with substantially smooth sides. Handle portions 15a are respectively formed in container body portion 14a at arcuate positions. A plurality of gripping projections 16a are formed at a predetermined interval within handle portions 15a. Corresponding closure 18a and overcap 30a are fitted on container 11a as would be known to one skilled in the art.

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In an alternative embodiment, as shown in FIG. 7, handle portions 15b can preferably be symmetrical. Without desiring to be bound by theory, it is believed that symmetrical handle portions 15b could prevent inversion of the handle portions 15b upon an increase in pressure from within container 11b. It is believed that symmetrical incorporated handle portions 15b provides for the uniform distribution of the internal pressure, developed within container 11, throughout handle portion 15b.

As is also shown in the alternative embodiment of FIG. 7, all portions of handle portions 15b are presented as either parallel to the longitudinal axis of container 11b or perpendicular to the longitudinal axis of container 11b. Without desiring to be bound by theory, it is believed that handle portions 15b, arranged to provide all component portions of handle portions 15b to be either parallel or perpendicular to the longitudinal axis of container 11b, could be less susceptible to bending forces due to internal pressures developed within container 11b. This could aid in the prevention of catastrophic failure of the container due to the pressures generated internally to container 11b.

Further, providing container 11b with handle portions 15b in a recessed configuration with respect to the body portion 14b of container 11b could require less force from the end user to maintain a firm grip on handle portions 15b of container 11b. Additionally, recessed handle portions 15b could aid in the prevention of an end user supplying extraneous force to the external portions of container 11b thereby causing catastrophic failure or deformation of container 11b.

Referring again to FIG. 1, container 11 exhibits superior top load strength per mass unit of plastic. With the present invention, filled and capped containers can be safely stacked one upon another without concern that the bottom containers will collapse or be deformed. Often, containers are palletized, by which several containers are stacked in arrays that take on a cubic configuration. In the order of 60 cases, each weighing about 30 pounds (13.6 Kg) can be loaded onto a pallet. In certain instances, these pallets can be stacked one upon another. It will be appreciated that the bottommost containers will be subjected to extraordinary columnar forces. Traditionally, polymeric containers are not capable of withstanding such high column forces. Thus, to avoid collapsing or buckling of these stacking situations, the top load resistance of each container should be at least about 16 pounds (7.3 Kg) when the containers are in an ambient temperature and pressure environment. More preferably, each container should exhibit a top load resistance of at least about 48 pounds (21.8 Kg) in accordance with the present invention.

As shown in FIG. 7, the body portion 14b of container 11b can have at least one region of deflection 43 placed therein to isolate deflection of the container 11b due to either pressures internal to container 11b or pressures due to forces exerted upon container 11b. As shown, at least one region of deflection 43 could generally define rectilinear regions of container 11b defined by a cylindrical wall. However, one of skill in the art would realize that at least one region of deflection 43 incorporated into body portion 14b could assume any geometry, such as any polygon, round, or non-uniform shape. Without wishing to be bound by theory, it is believed that a purely cylindrical container 11b, having a uniform wall thickness throughout, will resist compression due to pressure exerted from within container 11b or external to container 11b. However, without desiring to be bound by theory, it is believed that when applied forces exceed the strength of the container wall of purely cylindrical container 11b, deflection could be exhibited in an undesirable denting

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or buckling. Any non-uniformities present in a purely cylindrical container 11b, such as variations in wall thickness, or in the form of features present, such as handle portions 15b, can cause catastrophic failure upon a differential pressure existing between regions external to container 11b and regions internal to container 11b.

However, the incorporation of at least one region of deflection 43 is believed to allow flexion within the body portion 14b of container 11b. Thus, it is believed that body portion 14b can deform uniformly without catastrophic failure and can resist undesirable physical and/or visual effects, such as denting. In other words, the volume change incurred by container 11b due to internal, or external, pressures works to change the ultimate volume of the container 11b to reduce the differential pressure and thus, forces acting on the container wall. It is also believed, without desiring to be bound by theory, that the incorporation of a solid or liquid, or any other substantially incompressible material, can provide substantial resistance to the inward deflection of at least one region of deflection 43. For example, the inclusion of a powder, such as roast and ground coffee, could provide resistance to the inward deflection of at least one region of deflection 43, thus enabling at least one region of deflection 43 to remain substantially parallel to the longitudinal axis of container 11b and thereby providing an effective increase in the top load capability of container 11b. The peelable laminate seal also deflects with external pressure changes further reducing the pressure load on the container.

In a non-limiting, but preferred embodiment, container 11b has at least one region of deflection 43 that can be presented in the form of rectangular panels. The panels have a radius that is greater than the radius of container 11b. The panels are designed to have less resistance to deflection than that of the region of container 11b proximate to the rectangular panels. Thus, any movement exhibited by the panels is isolated to the panels and not to any other portion of container 11b.

As shown in FIG. 1, without desiring to be bound by theory, it is believed that the chime should be sufficient to allow container 11 to compress under vacuum by adapting to base volume changes and will improve the top loading capability of container 11. However, it is further believed that the chime should be as small as is practicable as would be known to one of skill in the art.

As shown in FIG. 7, the body portion 14b of container 11b can also have at least one rib 45 incorporated therein. It is believed that at least one rib 45 can assist in the effective management of isolating the movement of at least one panel 43 by positioning at least one rib 45 parallel to the longitudinal axis of container 11b and proximate to at least one panel 43 in order to facilitate the rotational movement of at least one panel 43 upon an inward, or outward, deflection of at least one panel 43. Further, it is believed that at least one rib 45 can also provide added structural stability to container 11b in at least the addition of top load strength. In other words, at least one rib 45 could increase the ability of container 11b to withstand added pressure caused by the placement of additional containers or other objects on top of container 11b. (One of skill in the art would be able to determine the positioning, height, width, depth, and geometry of at least one rib 45 necessary in order to properly effectuate such added structural stability for container 11b. Further, it would be known to one of skill in the art that at least one rib 45 could be placed on container 11b to be parallel to the longitudinal axis of container 11b, annular about the horizontal axis of container 11b, or be of an

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interrupted design, either linear or annular to provide the appearance of multiple panels throughout the surface of container 11b.

Additionally, container 11b can generally have a finish 46 incorporated thereon. In a preferred embodiment, the finish 46 is of an annular design that is believed can provide additional hoop strength to container 11b and surprisingly, can provide a finger well 44 to assist the user in removal of overcap 30. Further, it is possible for one of skill in the art to add ribs 47 to finish 46 in order to provide further strength to container 11b in the form of the added ability to withstand further top loading. In a preferred embodiment, ribs 47 are disposed parallel to the horizontal axis of container 11b and perpendicular to finish 46.

Container 11, as shown in FIG. 1 is preferably produced by blow molding a polyolefinic compound. Polyethylene and polypropylene, for example, are relatively low cost resins suitable for food contact and provide an excellent water vapor barrier. However, it is known in the art that these materials are not well suited for packaging oxygen-sensitive foods requiring a long shelf life. As a non-limiting example, ethylene vinyl alcohol (EVOH) can provide such an excellent barrier. Thus, a thin layer of EVOH sandwiched between two or more polyolefinic layers can solve this problem. Therefore, the blow-molding process can be used with multi-layered structures by incorporating additional extruders for each resin used. Additionally, the container of the present invention can be manufactured using other exemplary methods including injection molding and stretch blow molding.

In a preferred embodiment in accordance with the present invention, container 11 of FIG. 1, container 11a of FIG. 2, and container 11b of FIG. 7, can be blow molded from a multi-layered structure to protect an oxygen barrier layer from the effects of moisture. In a preferred embodiment, this multi-layered structure can be used to produce an economical structure by utilizing relatively inexpensive materials as the bulk of the structure.

Another exemplary and non-limiting example of a multi-layered structure used to manufacture the container of the present invention would include an inner layer comprising virgin polyolefinic material. The next outward layer would comprise recycled container material, known to those skilled in the art as a 'regrind' layer. The next layers would comprise a thin layer of adhesive, the barrier layer, and another adhesive layer to bind the barrier layer to the container. The final outer layer can comprise another layer of virgin polyolefinic material.

A further exemplary and non-limiting example of a multi-layered structure used to manufacture the container of the present invention would include an inner layer comprising virgin polyolefinic material. The next layers would comprise a thin layer of adhesive, the barrier layer, and another adhesive layer to bind the barrier layer to the container. The next outward layer would comprise recycled container material, known to those skilled in the art as a 'regrind' layer. The final outer layer can comprise another layer of virgin polyolefinic material. In any regard, it should be known to those skilled in the art that other potential compounds or combinations of compounds, such as polyolefins, adhesives and barriers could be used. Further, an oxygen scavenger can be incorporated into, or on, any layer of a multi-layered structure to remove any complexed or free oxygen existing within a formed container. Such oxygen scavengers can include oxygen scavenging polymers, complexed or non-complexed metal ions, inorganic powders and/or salts, and combinations thereof, and/or any compound capable of

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entering into polycondensation, transesterification, transamidization, and similar transfer reactions where free oxygen is consumed in the process.

Other such materials and processes for container formation are detailed in *The Wiley Encyclopedia of Packaging Technology*, Wiley & Sons (1986), herein incorporated by reference. Preferably, the inner layer of containers 11, 11a, and 11b are constructed from high-density polyethylene (HDPE).

A preferred polyolefinic, blow molded container in accordance with the present invention can have an ideal minimum package weight for the round containers of FIGS. 1 and 7, or the parallelepiped container of FIG. 2, and yet still provide the top load characteristics necessary to achieve the goals of the present invention. Exemplary materials (low-density polyethylene (LDPE), high density polyethylene (HDPE) and polyethylene terephthalate (PET)) and starting masses of these compounds that provide sufficient structural rigidity in accordance with the present invention are detailed in Table 1 below.

TABLE 1

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/atm)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Parallelepiped	LDPE (40,000/2,721)	79 grams	146 grams
Parallelepiped	HDPE (98,000/6,669)	66 grams	123 grams
Parallelepiped	PET (600,000/40,828)	40 grams	74 grams
Round	LDPE (40,000/2,721)	51 grams	95 grams
Round	HDPE (98,000/6,669)	43 grams	80 grams
Round	PET (600,000/40,828)	26 grams	48 grams

It was surprisingly found that a container in accordance with the present invention that is filled with product and sealed to contain the final product has enhanced properties for the same starting compound weight. This provides a benefit in that it is now possible to use less starting material to provide the top load values in accordance with the present invention. Exemplary materials and starting masses of compounds (LDPE, HDPE, and PET) providing the necessary structural rigidity of a filled and sealed container in accordance with the present invention are detailed in Table 2.

TABLE 2

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/atm)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Parallelepiped	LDPE (40,000/2,721)	72 grams	134 grams
Parallelepiped	HDPE (98,000/6,669)	61 grams	112 grams
Parallelepiped	PET (600,000/40,828)	37 grams	68 grams
Round	LDPE (40,000/2,721)	47 grams	87 grams

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TABLE 2-continued

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/atm)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Round	HDPE (98,000/6,669)	39 grams	73 grams
Round	PET (600,000/40,828)	24 grams	44 grams

Again referring to FIG. 1, protuberance 17, in the form of a rim like structure, disposed at the open end of container 11 may have textured surfaces disposed thereon. Textured surfaces disposed on protuberance 17 can comprise raised surfaces in the form of protuberances, annular features, and/or cross-hatching to facilitate better sealing of removable closure 19. Exemplary, but non-limiting, annular features may include a single bead or a series of beads as concentric rings protruding from the seal surface of protuberance 17. While not wishing to be bound by theory, it is believed that a textured surface on protuberance 17 can allow for the application of a more uniform and/or concentrated pressure during a sealing process. Textured surfaces can provide increased sealing capability between protuberance 17 and removable closure 19 due to any irregularities introduced during molding, trimming, shipping processes and the like during manufacture of container 11.

The Removable Closure

Again referring to FIG. 1, fresh packaging system 10 comprises a closure 18 that is a laminated, peelable seal 19 that is removably attached and sealed to container 11. Peelable seal 19 has a hole beneath which is applied a degassing valve, indicated as a whole by reference number 20. One-way valve 20 can be heat welded or glued to peelable seal 19.

In a preferred embodiment according to FIG. 3, the interior of peelable seal 19 to the outer side of peelable seal 19 is a laminate and comprises, in sequence, an inner film 21, such as polyethylene, a barrier layer 22, such as a metallized sheet, preferably metallized PET, metallized PE, or aluminum, and an outer film of plastic 23, such as PET. Inner film 21 is preferably formed from the same material as the outer layer of container 11. Thus, inner film 21 is preferably a polyolefin, and more preferably polyethylene (PE). Plastic outer film 23 is preferably produced from a material such as polyester. However, one skilled in the art would realize that other materials, such as a foil closure, and other stretchable and non-stretchable layer structures can be used and still remain within the scope of the present invention. Additionally, an oxygen scavenger, as described supra, can be incorporated into, or on, any layer of peelable seal 19 to remove free, or complexed, oxygen.

Both inner film 21 and barrier layer 22 are perforated, preferably by means of cuts, pricks, or stampings, to form flow opening 24, as shown in FIG. 3. In the area above the outlet opening, outer film 23 is not laminated to barrier layer 22, thereby forming longitudinal channel 25. Channel 25 extends the entire width of the laminate so that during manufacture, channel 25 extends to the edge of closure 18.

As a result, a very simple and inexpensive one-way valve 20 is formed by means of the non-laminated arcs of outer film 23 and outlet opening 24. The gases produced by the contents within container 11 may flow through valve 20 to

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the surrounding environment. Since an overpressure exists in container 11, and since outer film 23 usually adheres or at least tightly abuts barrier layer 22 because of the inner pressure, unwanted gases, such as oxygen, are prevented from flowing into container 11 and oxidizing the contents. Thus, outer film 23 serves as a membrane that must be lifted by the inner gas pressure in the packing in order to release gas. It is preferred that one-way valve 20 respond to pressures developed within container 11. This pressure can exceed 10 millibars, and preferably exceed 15 millibars, and more preferably would exceed 20 millibars, and most preferably, exceed 30 millibars.

Additionally, a small amount of liquid can be filled into channel 25. The liquid can be water, siloxane-based oils, or oil treated with an additive so that the oil is prevented from becoming rancid prior to use of the product. The pressure at which the release of internal off gas from container 11 occurs can be adjusted by varying the viscosity of the liquid within channel 25.

In an alternative, but non-limiting, embodiment, a one-way degassing valve can comprise a valve body, a mechanical valve element, and a selective filter as described in U.S. Pat. No. 5,515,994, herein incorporated by reference.

Closure 18 is preferably sealed to container 11 along a rim (protuberance) 17 of container 11. Preferable, but non-limiting, methods of sealing include a heat sealing method incorporating a hot metal plate applying pressure and heat through the closure material and the container rim, causing a fused bond. The peel strength achieved is generally a result of the applied pressure, temperature, and dwell time of the sealing process. However, it should be known to one skilled in the art, that other types of seals and seal methods could be used to achieve a bond with sufficient and effective seal strength, including, but not limited to, a plurality of annular sealing beads disposed on rim 17.

As shown in FIG. 8, in an alternative embodiment, peelable seal 19c of container 11c can include a pivotable pouring device 50. Pivotable pouring device 50 can be placed at any location on peelable seal 19a or at any position on container 11c. In a preferred embodiment, it is also believed that pivotable pouring device 50 could be disposed on a non-peelable seal located under peelable seal 19c in the interior volume of container 11c. This could enable a user to remove peelable seal 19c, exposing the non-peelable seal having the pivotable pouring device 50 disposed thereon. The user could then pivot the pivotable pouring device 50 to dispense a product contained within container 11c. After dispensing the product from container 11c via pivotable pouring device 50, the user could pivot the pivotable pouring device 50 to effectively close non-peelable seal, thereby effectively sealing container 11c. As would be known to one of skill in the art, exemplary, but non-limiting, examples of pivotable pouring device 50 include pouring spouts.

It is believed that pivotable pouring device 50 could have dimensions that facilitate the flow of product from container 11c, as would be known to one of skill in the art. A depression, slot, or other orifice can be disposed on either peelable seal 19c or the non-peelable seal to facilitate insertion of a user's appendage or other device to aid in the application of force necessary to pivot pivotable pouring device 50.

In the alternative embodiment of FIG. 8a, a striker bar 52, formed from either a portion of peelable seal 19d or a non-peelable seal, can be used to strike off excess product from a volumetric measuring device. Without wishing to be bound by theory, it is believed that striker bar 52 could facilitate more consistent measurements of product by

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increase the packing density and volume present within the volumetric measurement device. Further, it is believed that the presence of the remainder of peelable seal 19d or a non-peelable seal can assist in the retention of the various aromatic and non-aromatic gasses that naturally evolves from a product held within container 11d.

The Overcap

Referring to FIG. 1, fresh packaging system 10 optionally comprises an overcap 30 comprised of dome portion 31, skirt portion 32, rib 33, and optionally vent 34. As a non-limiting example, overcap 30 is generally manufactured from a plastic with a low flexural modulus, for example, low-density polyethylene (LDPE), high-density polyethylene (HDPE), polyethylene (PE), polypropylene (PP), linear low-density polyethylene (LLDPE), polycarbonate, polyethylene terephthalate (PET), polystyrene, polyvinyl chloride (PVC), co-polymers thereof, and combinations thereof. This allows for an overcap 30 that has a high degree of flexibility, yet, can still provide sufficient rigidity to allow stacking of successive containers. By using a flexible overcap 30, mechanical application during packaging as well as re-application of overcap 30 to container 11 after opening by the consumer is facilitated. A surprising feature of a flexible overcap 30 is the ability of the end user to "burp" excess atmospheric gas from container 11 thereby reducing the amount of oxygen present. Further, an oxygen scavenger, as described supra, can be incorporated into, or on, any layer of peelable seal 19 to remove free, or complexed, oxygen.

Dome portion 31 is generally designed with a curvature, and hence height, to accommodate for an outward displacement of closure 18 from container 11 as a packaged product, such as roast and ground coffee, off gasses. The amount of curvature needed in dome portion 31 can be mathematically determined as a prediction of displacement of closure 18. As a non-limiting example, a nominal height of dome portion 31 can be 0.242 inches (0.61 cm) with an internal pressure on closure 18 of 15 millibars for a nominal 6-inch (15.25 cm) diameter overcap. Further, the dome portion 31 is also generally displaceable beyond its original height as internal pressure rises in container 11, causing closure 18 to rise prior to the release of any off gas by one-way valve 20.

Referring to FIG. 4, overcap 30 comprises a rib 33. Rib 33 protrudes outwardly from the generally planar dome portion 31 and serves as a physical connection between dome portion 31 and skirt 32. Generally, skirt 32 has a hook shape for lockingly engaging protuberance 17 of container 11. Rib 33 isolates skirt 33 from dome portion 31, acting as a cantilever hinge so that outward deflections (O) of dome portion 31 are translated into inward deflections (I) of skirt 33. This cantilevered motion provides for an easier application of overcap 30 to container 11 and serves to effectively tighten the seal under internal pressures.

Additionally, rib 33 can allow for successive overcaps to be stacked for shipping. Skirt 32 preferably has a flat portion near the terminal end to allow for nesting of successive overcaps. Furthermore, rib 33 can extend sufficiently away from dome portion 31 so that successive systems may be stacked with no disruption of the stack due to a maximum deflection of closure 18 and the dome portion 31 of overcap 30. Without desiring to be bound by theory, it is believed that the downward load force rests entirely on rib 33 rather than across dome portion 31. Resting all downward forces on rib 33 also protects closure 18 from a force opposing the outward expansion of closure 18 from container 11 due to the off gas generated by a contained product.

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As shown in FIG. 5, an exploded view of the region around rib 33, dome portion 31 correspondingly mates with protuberance 17 of container 11. As a non-limiting example, container 11, after opening, requires replacement of overcap 30. A consumer places overcap 30 on container 11 so that an inside edge 34 of rib 33 contacts protuberance 17. A consumer then applies outward pressure on skirt 32 and downward pressure on dome portion 31, expectorating a majority of ambient air entrapped within the headspace of container 11. As shown in FIG. 6, the inside edge 34 of rib 33 then fully seats on protuberance 17, producing a complete seal. In a non-limiting example, protuberance 17 varies from -5° to +5° from a line perpendicular to body 14. Inside edge 34 is designed to provide contact with protuberance 17 for this variation. As another non-limiting example, overall travel of the inside edge 34 of rib 33 has been nominally measured at three millimeters for a protuberance 17 width of four to six millimeters. It has been found that when protuberance 17 is angularly disposed, protuberance 17 forms a sufficient surface to provide for sealing adhesive attachment of closure 18 to protuberance 17.

Additionally, the inside edge 34 of rib 33 can effectively prevent the pollution of protuberance 17, with or without closure 18 in place, thereby providing a better seal. As pressure within container 11 builds due to off gas from the entrained product, dome portion 31 of overcap 30 deflects outward. This outward deflection causes the inside edge 34 of rib 33 to migrate toward the center of container 11 along protuberance 17. This inward movement results in a transfer of force through rib 33 to an inward force on skirt portion 32 to be applied to container wall 14 and the outer portion of protuberance 17, resulting in a strengthened seal. Additionally, significant deflections of dome 31 due to pressurization of closure 18 causes the inside edge 34 to dislocate from protuberance 17 allowing any vented off gas to escape past protuberance 17 to the outside of overcap 30. This alleviates the need for a vent in overcap 30.

As shown in FIG. 9, in an alternative embodiment of overcap 30b comprises a plurality of nested cylindrical formations. In other words, in this alternative embodiment, the base of overcap 30b, having a diameter, d, forms a base portion 60 upon which the upper portion 62 of overcap 30b, having a diameter, d-Ad, is disposed thereon. The upper portion 62 of overcap 30b can have an annular protuberance 64 disposed thereon. It is believed that the annular protuberance 64 disposed upon the upper portion 62 of overcap 30b can provide a form upon which annular ring 42 disposed upon closed bottom 13, can lockably nest.

As shown in FIGS. 9a and 10, in an alternative embodiment, the inner surface of the base portion 60 of overcap 30b can have an annular sealing ring 66 disposed thereon. Annular sealing ring 66 was surprisingly found to facilitate the mating of surfaces corresponding to annular sealing ring 66 and the finish portion of container 11. Mating the surfaces in this manner can provide an audible recognition that both surfaces have made contact and that a secure seal between protuberance 17 and the internal surface of overcap 30b has been made. A surprising feature of overcap 30b is the ability of the end user to "burp" excess atmospheric gas from container 11 thereby reducing the amount of oxygen present. Further, it is believed that an inner surface of base portion 60 mate with at least a portion of protuberance 17 so that there is provided an overlap of the inner surface of base portion 60 with protuberance 17. One of skill in the art would realize that any configuration of the annular sealing ring 66 may be used to provide the facilitation of the corresponding mating surfaces, including, but not limited to, interrupted annular

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rings, a plurality of protuberances, and combinations thereof. It is also believed that providing a protuberance 69 in the form of an annular ring, plurality of protuberances, and other protuberances known to one of skill in the art, can provide a method of stacking a plurality of overcaps 30b prior to overcap 30b being applied to a container.

As shown in FIG. 9a, it was surprisingly found that a plurality of protuberances 68 disposed upon the inner surface of overcap 30b could facilitate the replacement of overcap 30b upon container 11. Without desiring to be bound by theory, it is believed that a plurality of protuberances 68 could facilitate overcap 30b replacement. It is further believed that the plurality of protuberances 68 disposed upon the inner surface of overcap 30b can effectively translate the horizontal component of a force applied to overcap 30b during replacement of overcap 30b upon container 11 through the plurality of protuberances 68 thereby allowing the plurality of protuberances 68 to effectively traverse over the edge of container 11 and ultimately aligning the longitudinal axis of overcap 30b with the longitudinal axis of container 11. It would be realized by one of skill in the art that the plurality of protuberances 68 could comprise a plurality of spherical, semi-spherical, elliptical, quarter-round, and polygonal projections, indentations, and combinations thereof.

Coffee Packaging

A preferred method of packaging a whole, roast coffee in accordance with the present invention to provide a more freshly packed coffee product, is detailed herein.

A whole coffee bean is preferably blended and conveyed to a roaster, where hot air is utilized to roast the coffee to the desired degree of flavor development. The hot roasted coffee is then air-cooled and subsequently cleaned of extraneous debris.

In a preferred, but non-limiting step, a whole roast coffee is cracked and normalized (blended) before grinding to break up large pieces of chaff. The coffee is then ground and cut to the desired particle size for the grind size being produced. The ground coffee then preferably enters a normalizer that is connected to the bottom of the grinder heads. In the normalizer, ground coffee is preferably slightly mixed, thus, improving the coffee appearance. As another non-limiting step, the coffee discharges from the normalizer and passes over a vibrating screen to remove large pieces of coffee.

The ground coffee is then preferably sent to a filler surge hopper and subsequently to a filling apparatus (filler). The filler weighs a desired amount of coffee into a bucket that in turn, dumps the pre-measured amount of coffee into a container manufactured as detailed supra. The container is then preferably topped-off with an additional amount of coffee to achieve the desired target weight.

The container is then preferably subjected to an inert gas purge to remove ambient oxygen from the container headspace. Non-limiting, but preferred, inert gases are nitrogen, carbon dioxide, and argon. Optionally, an oxygen scavenger, as described supra, and generally present in the form of a packet can be included within the container to provide removal of free or complexed oxygen. A closure, as disclosed supra, is placed on the container to effectively seal the contents from ambient air. Preferably the closure has a one-way valve disposed thereon. An overcap, disclosed supra, is then applied onto the container, effectively covering the closure and locking into the container sidewall ridge. The finished containers are then packed into trays, shrink wrapped, and unitized for shipping.

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Freshness

It is believed that the resulting inventive packaging system provides a consumer with a perceptively fresher packed roast and ground coffee that provides a stronger aroma upon opening of the package and the perception of a longer-lasting aroma that is apparent with repeated and sustained openings of the packaging system. Not wishing to be bound by any theory, it is believed that roast and ground coffee elutes gases and oils that are adsorbed onto the polyolefinic compound comprising the inside of the container and closure. Upon removal of the closure, the polyolefinic compound then evolves these adsorbed gases and oils back into the headspace of the sealed container. It is also believed that the inventive packaging system can also prevent the infiltration of deleterious aromas and flavors into the packaging system. Thus, the construction of the instant packaging system can be altered to provide the benefit of most use for the product disclosed therein. To this end, it is further believed that the packaging system can be utilized for the containment of various products and yet provide the benefits discussed herein.

Applicants characterize the surprising aroma benefits provided by the present article of manufacture in terms of the article's "overall coffee aroma value", which is an absolute characterization. Applicants also characterize the aroma benefits relative to a control article (a prior art metallic can, as described below). Such a characterization is referred to herein as the article's "differential coffee aroma value". The methods for measuring overall coffee aroma value and differential coffee aroma value are described in detail in the Test Method section infra. The article of manufacture will have an overall coffee aroma value of at least about 5.5. Preferably, the article will have an overall coffee aroma value of least about 6, more preferably at least about 6.5, still more preferably at least about 7, and still more preferably at least about 7.5.

Preferably, the article of manufacture of the present invention will have a differential coffee aroma value of at least about 1.0, more preferably at least about 2.0, and most preferably at least about 2.8.

Test Method

A test container and an existing industry standard metallic container (control container) are packed with identical fresh roast and ground coffee product, prepared as stated above, and stored for 120 days prior to testing. Immediately prior to testing, the containers are emptied and wiped with a paper towel to remove excess roast and ground coffee product. Each container is then capped and let stand prior to testing in order to equilibrate. During testing, each container used is exchanged with another similarly prepared, but, unused container at one-hour intervals. A control container is a standard 603, tin-plated, 3-pound (1.36 Kg), vacuum-packed, steel can.

Individual panelists are screened for their ability to discriminate odors utilizing various standard sensory methodologies as part of their sensory screening. Panelists are assessed for aroma discriminatory ability using the gross olfactory acuity-screening test (universal version) as developed by Sensorics, Inc., for aroma. This test method involves a potential panelist successfully identifying aromas in a "scratch and sniff" context.

Forty successful, qualified panelists are then blindfolded and each evaluates a test container and a control container. Each blindfolded panelist smells a first container (either test container or control container) and rates the aroma on a 1 to 9 point scale (integers only) with reference to the following description: no aroma (1) to a lot of aroma (9). After a brief

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relief period, the blindfolded panelist evaluates the second container. The range for overall aroma is again assessed by panelists using the same rating system.

The panel results for overall coffee aroma value are then tabulated and statistically evaluated. Standard deviations based on a Student T statistical test are calculated with 95% confidence intervals to note where statistically significant differences occur between the mean values of the two products tested. Exemplary and statistically adjusted results of a "blind test" panel using existing packaging methodologies for roast and ground coffee are tabulated in Table 3, as follows:

TABLE 3

Roast and Ground Coffee Sensory Panel Results for Comparing Inventive Articles vs. Existing Articles at 120 days at 70° F. (21° C.)

	Inventive Package (Plastic)	Standard Steel Package (Control)
No. Respondents	40	40
Amount of Coffee Aroma	7.3	4.5

Based upon this test panel, it was surprisingly found that the present articles of manufacture provide a perceived "fresher" roast and ground coffee end product for a consumer. The improvement in overall coffee aroma was increased from the control sample adjusted panel value of 4.5 to an adjusted panel value of 7.3 for the inventive article, resulting in a differential adjusted value of 2.8.

While particular embodiments of the present invention have been illustrated and described, it will be obvious to those skilled in the art that various changes and modifications may be made without departing from the spirit and scope of the invention. One skilled in the art will also be able to recognize that the scope of the invention also encompasses interchanging various features of the embodiments illustrated and described above. Accordingly, the appended claims are intended to cover all such modifications that are within the scope of the invention.

What is claimed is:

1. A packaging system comprising:

- a container having a longitudinal axis and comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said top; wherein said bottom, top, and body together define an interior volume;
- wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;
- a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;
- a handle disposed on said body; and
- a flexible closure removably attached and sealed to said protuberance;
- wherein said bottom and said body are constructed from a material having a tensile modulus number ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm);

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wherein said container has a top load capacity of at least about 16 pounds (7.3 kg); and wherein said closure has a one-way valve disposed thereon.

2. The packaging system as claimed in claim 1 wherein said flexible closure comprises a foil.

3. The packaging system as claimed in claim 1 wherein said flexible closure is a laminate comprising a first layer, a second layer, and a barrier layer disposed therebetween.

4. The packaging system as claimed in claim 3 wherein said first layer is a polyolefin.

5. The packaging system as claimed in claim 4 wherein said valve is responsive to internal pressures within said container exceeding 10 millibars.

6. The packaging system as claimed in claim 5 wherein said valve is responsive to internal pressures within said container exceeding 20 millibars.

7. The packaging system as claimed in claim 6 wherein said valve is responsive to internal pressures within said container exceeding 30 millibars.

8. The packaging system as claimed in claim 1 wherein said bottom and said body are formed from a blow-moldable material.

9. The packaging system as claimed in claim 8 wherein said material is a polyolefin.

10. The packaging system as claimed in claim 8 wherein said blow-moldable material is selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.

11. The packaging system as claimed in claim 1 wherein said material is a multi-layered structure.

12. The packaging system as claimed in claim 11 wherein said multi-layered structure further comprises a polyolefin layer proximate to said interior volume and at least one layer that is an oxygen barrier.

13. The packaging system as claimed in claim 12 wherein said polyolefin is selected from the group consisting of low density polyethylene, high density polyethylene, polypropylene, co-polymers thereof, and combinations thereof.

14. The packaging system as claimed in claim 1 wherein said handle is integral with said body.

15. The packaging system as claimed in claim 1 wherein said handle is substantially parallel to said longitudinal axis of said container.

16. The packaging system as claimed in claim 1 further comprising an overcap having a rib disposed proximate to and along the perimeter of said overcap, said rib defining an inner dome portion and an outer skirt portion of said overcap.

17. The packaging system as claimed in claim 16 wherein said rib has a height at least equal to the maximum displacement of said dome portion.

18. The packaging system as claimed in claim 16 wherein said overcap is constructed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.

19. The packaging system of claim 1 wherein said at least one region of deflection is responsive to at least one force internal or external to said container.

20. The packaging system as claimed in claim 1 wherein said tensile modulus number ranges from at least about 40,000 pounds per square inch (2,721 atm) to at least about 260,000 pounds per square inch (17,692 atm).

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21. The packaging system as claimed in claim 20 wherein said tensile modulus number ranges from at least about 90,000 pounds per square inch (6,124 atm) to at least about 150,000 pounds per square inch (10,207 atm).

22. The packaging system as claimed in claim 1 wherein coffee is placed therein.

23. The packaging system as claimed in claim 22 wherein said coffee is roast and pound.

24. The packaging system as claimed in claim 23 wherein said container containing said roast and ground coffee is flashed with an inert gas.

25. The packaging system as claimed in claim 24 wherein said inert gas is selected from the group consisting of nitrogen, carbon dioxide, argon, and combinations thereof.

26. The fresh packaging system as claimed in claim 1 wherein said top load capacity is at least about 48 pounds (21.8 Kg).

27. A method for packing coffee using the fresh packaging system of claim 1 comprising the steps of:

filling said container with roast and ground coffee;

flushing said container with an inert gas; and

sealing said container with said flexible closure.

28. The method of claim 27 further comprising the step of: placing an overcap over said flexible closure, said overcap having a rib disposed proximate to and along the perimeter of said overcap, said rib defining an inner dome portion and an outer skirt portion of said cap.

29. The method of claim 27 further wherein said flexible closure further comprises a valve responsive to internal pressures within said container exceeding 10 millibars.

30. The method of claim 27 wherein said handle is integral with said body.

31. The packaging system of claim 1, wherein said container further comprises at least one rib parallel to the longitudinal axis, said rib adding structural stability to said container with respect to top load capacity.

32. The packaging system of claim 31 wherein said at least one region of deflection is in the form of a rectangular panel and said at least one rib is proximate thereto.

33. An article of manufacture comprising:

a closed bottom;

an open top;

a body forming an enclosed perimeter between said bottom and top;

wherein said bottom, top, and body together define an interior volume;

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

wherein said body includes a protuberance continuously disposed around the perimeter of said body proximate to said top; and

wherein said bottom and body are constructed from a polyolefin;

a flexible closure having a one-way valve disposed thereon, the closure removably attached to said protuberance wherein said closure forms a seal with said protuberance;

roast and ground coffee contained within said interior volume; and

wherein said article of manufacture has an overall coffee aroma value of at least about 5.5.

34. The article of manufacture of claim 33 wherein said overall coffee aroma value is at least about 6.5.

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35. The article of manufacture of claim 34 wherein said overall coffee aroma value is at least about 7.3.

36. The article of manufacture of claim 33 wherein said polyolefin is selected from the group consisting of low density polyethylene, high density polyethylene, polypropylene, co-polymers thereof, and combinations thereof.

37. A packaging system comprising:

a container for holding coffee having a longitudinal axis and comprising a closed bottom, an open top, a handle, and a body having an enclosed perimeter between said bottom and said top;

wherein said bottom, top, and body together define an interior volume;

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;

a flexible closure removably attached and sealed to said protuberance; and, wherein said bottom and said body are constructed from a material having a tensile modulus number ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm); and wherein said container has a top load capacity of at least about 16 pounds (7.3 kg).

38. The packaging system of claim 37 wherein said handle is disposed on said body of said container.

39. The packaging system of claim 37 wherein said handle is integral with said body.

40. The packaging system of claim 37 wherein said handle is substantially parallel to said longitudinal axis of said container.

41. The packaging system of claim 37 wherein said bottom and said body are formed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof and combinations thereof.

42. The packaging system of claim 37 wherein said container contains coffee therein.

43. The packaging system of claim 37 wherein said container contains roast and ground coffee therein.

44. A packaging system comprising:

a container for holding coffee having a longitudinal axis and comprising a closed bottom, an open top, a handle, a one-way valve and a body having an enclosed perimeter between said bottom and said top;

wherein said bottom, top, and body together define an interior volume;

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

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a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;

a flexible closure removably attached and sealed to said protuberance; and,

wherein said bottom and said body are constructed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof and combinations thereof.

45. The packaging system of claim 44 wherein said handle is disposed on said body of said container.

46. The packaging system of claim 44 wherein said handle is integral with said body.

47. The packaging system of claim 44 wherein said handle is substantially parallel to said longitudinal axis of said container.

48. The packaging system of claim 44 wherein said container contains coffee therein.

49. The packaging system of claim 48 wherein said coffee is roast and ground.

50. A packaging system comprising:

a container for holding coffee having a longitudinal axis and comprising a closed bottom, an open top, a handle, and a body having an enclosed perimeter between said bottom and said top;

wherein said bottom, top, and body together define an interior volume;

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;

a flexible closure removably attached and sealed to said protuberance; and, wherein said bottom and said body are constructed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof and combinations thereof.

51. The packaging system of claim 50 wherein said handle is disposed on said body of said container.

52. The packaging system of claim 50 wherein said handle is integral with said body.

53. The packaging system of claim 50 wherein said handle is substantially parallel to said longitudinal axis of said container.

54. The packaging system of claim 50 wherein said container contains coffee therein.

55. The packaging system of claim 54 wherein said coffee is roast and ground.

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(12) **United States Patent**
Dalton et al.

(10) **Parent No.:** US 7,169,418 B2
(45) **Date of Patent:** *Jan. 30, 2007

(54) **PACKAGING SYSTEM TO PROVIDE FRESH
PACKED COFFEE**

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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 304 days.

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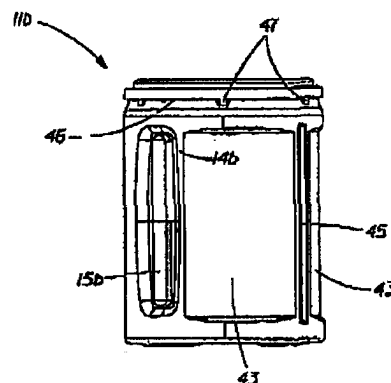
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(57) **ABSTRACT**

A fresh packaging system for roast and ground coffee having a top load capacity of at least about 16 pounds (7.3 Kg) comprising a container with a closed bottom, an open top, and a body enclosing a perimeter between the bottom and the top. A protuberance is continuously disposed around the perimeter of the body proximate to the top and forms a ridge external to the body. A flexible closure is removably attached and sealed to the protuberance so that the closure seals the interior volume of the container. The container bottom and container body are constructed from a material having a tensile modulus number ranging from at least about 35,000 to at least about 650,000 pounds per square inch (at least about 2,381 to at least about 44,230 atm).

See application file for complete search history.

55 Claims, 7 Drawing Sheets



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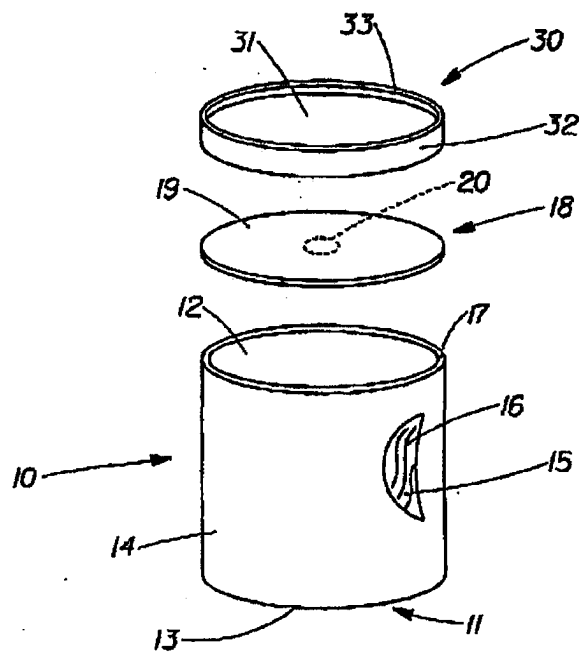


Fig. 1

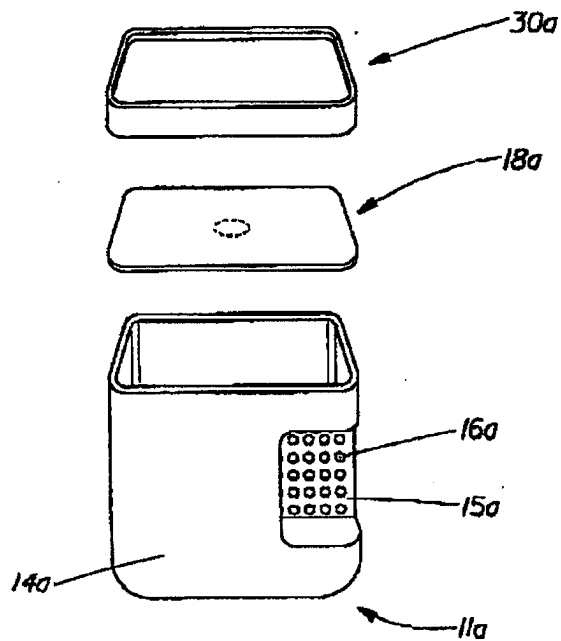


Fig. 2

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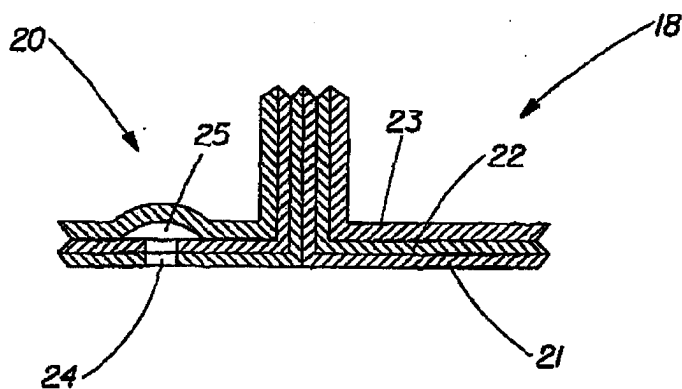


Fig. 3

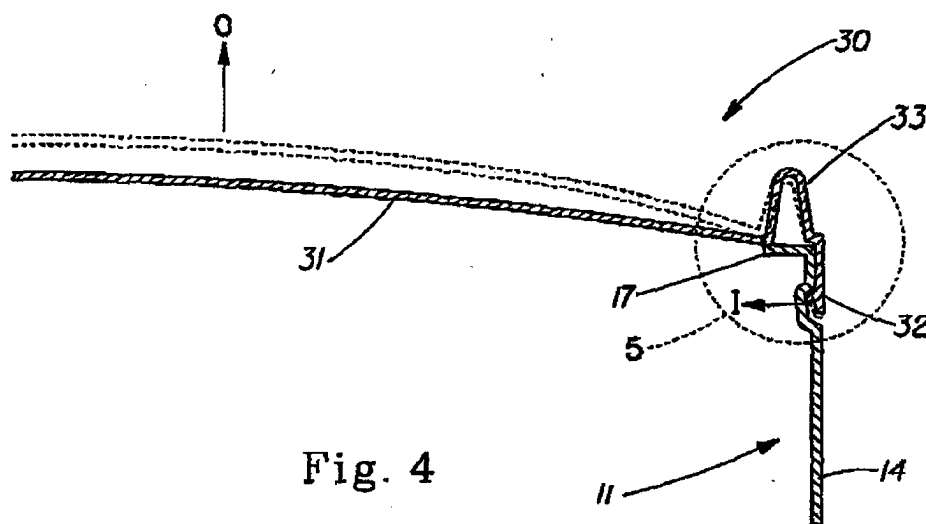


Fig. 4

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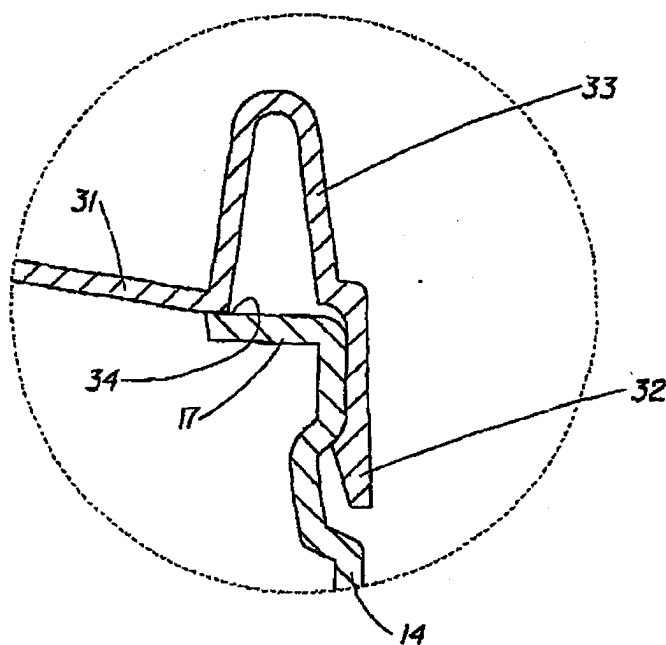


Fig. 5

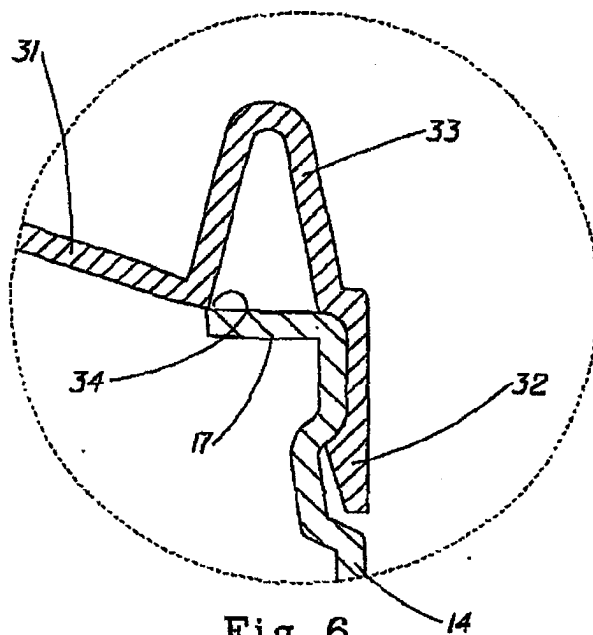


Fig. 6

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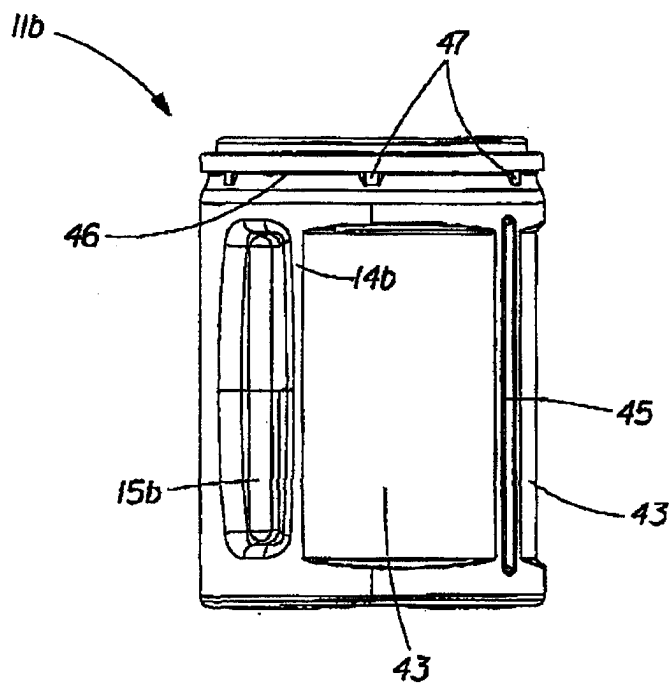


Fig. 7

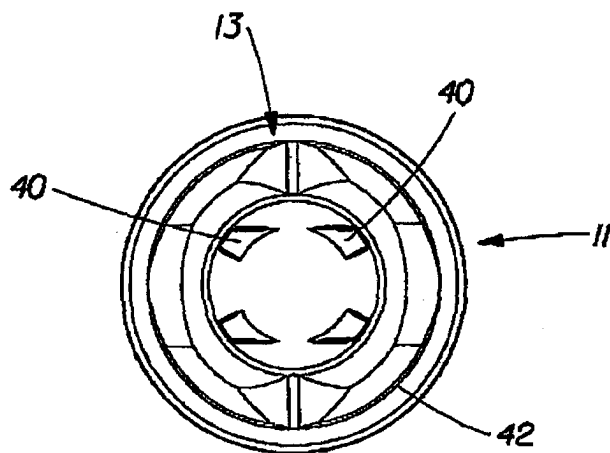


Fig. 7A

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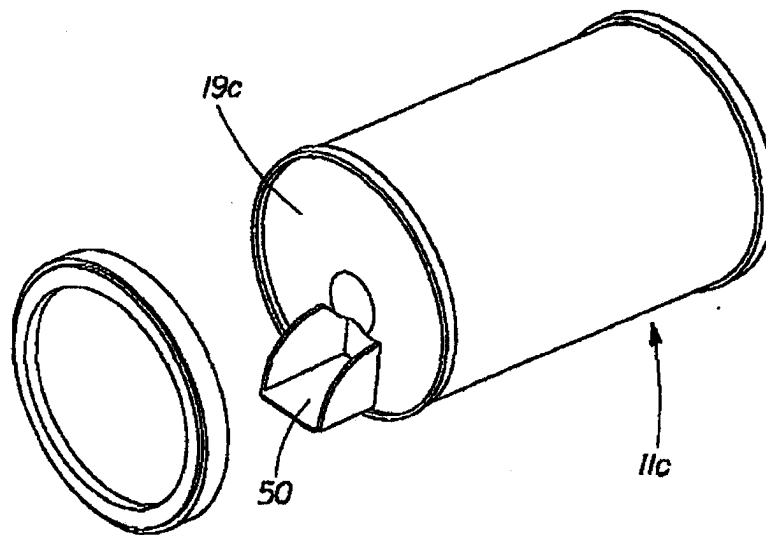


Fig. 8

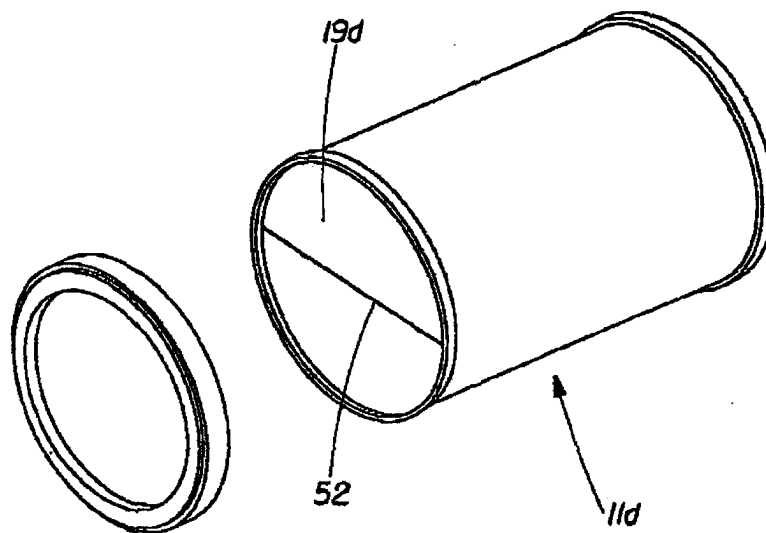


Fig. 8A

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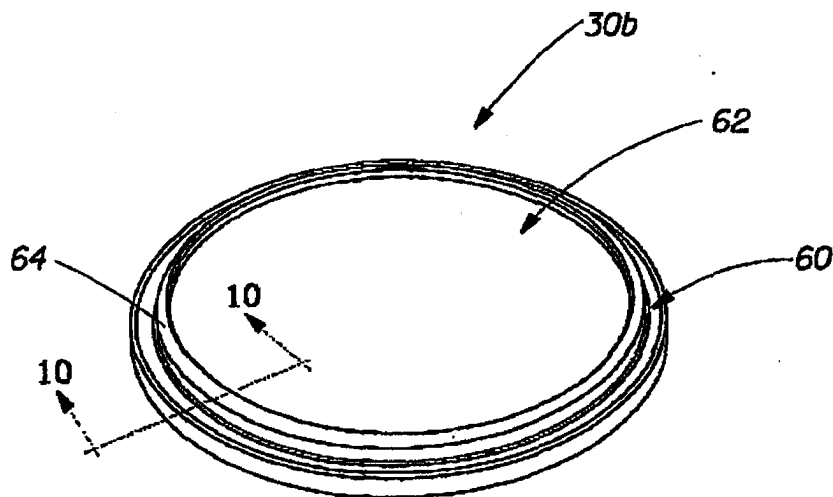


Fig. 9

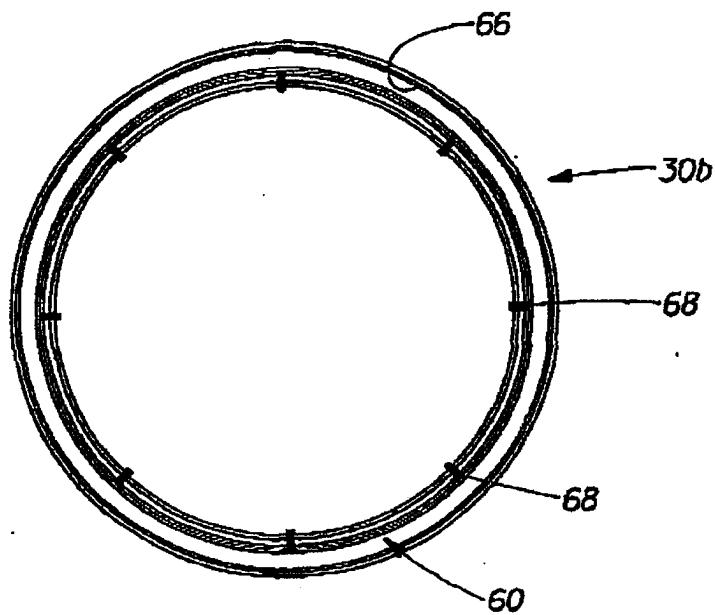


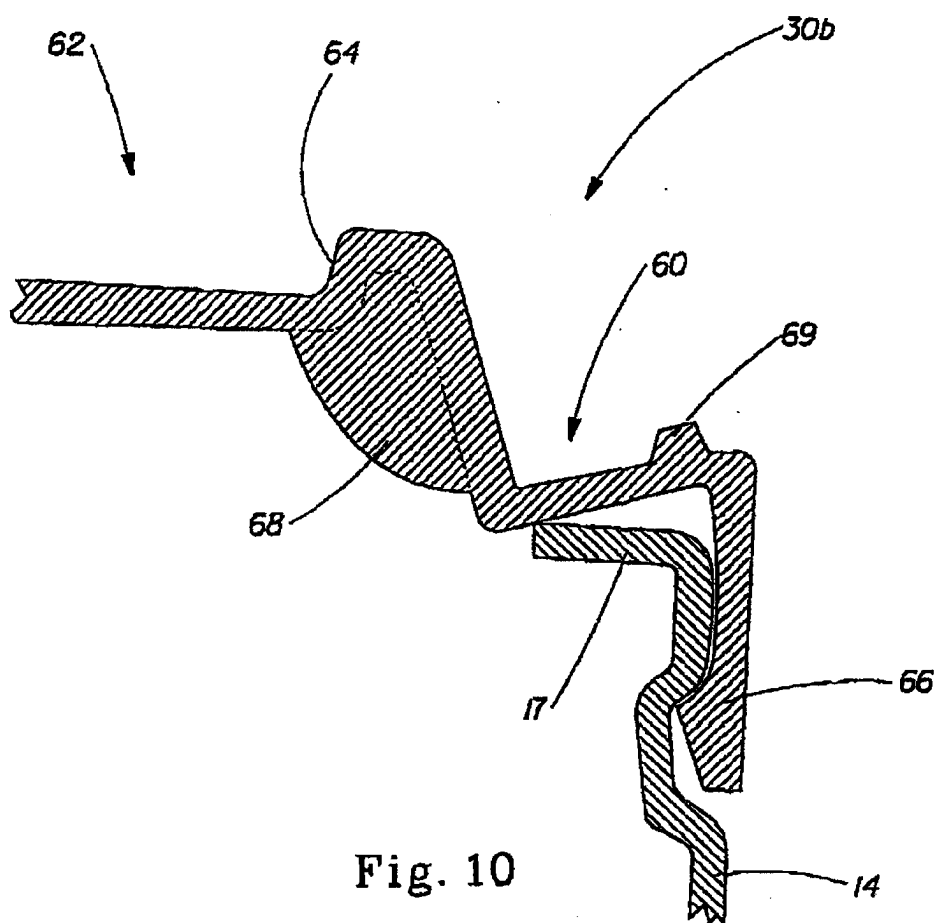
Fig. 9A

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PACKAGING SYSTEM TO PROVIDE FRESH PACKED COFFEE

PRIORITY

This application claims priority to Provisional Application No. 60/295,666 filed on Jun. 4, 2001, the entirety of which is hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention relates to a fresh packaging system useful for packing fresh roast and ground coffee. The present invention still further relates to a more convenient, lightweight, and handled container that provides increased strength per mass unit of plastic for the transport of freshly roast and ground coffee. More particularly, the present invention relates to a method for providing a consumer with a fresher packed roast and ground coffee that provides a more pleasant aroma upon opening of the package and a perceived longer-lasting aroma after repeated and sustained openings.

BACKGROUND OF THE INVENTION

Packages such as cylindrical cans for containing a particulate product under pressure, such as roast and ground coffee, are representative of various articles to which the present invention is applicable. It is well known in the art that freshly roasted and ground coffee evolves substantial amounts of oils and gases, such as carbon dioxide, particularly after the roasting and grinding process. Therefore, roast and ground coffee is usually held in storage bins prior to final packing to allow for maximum off gassing of these volatile, natural products. The final coffee product is then placed into a package and subjected to a vacuum packing operation.

Vacuum packing the final coffee product results in reduced levels of oxygen in the headspace of the package. This is beneficial, as oxygen reactions are a major factor in the staling of coffee. A common package used in the industry is a cylindrical, un-plated, and steel stock can. The coffee is first roasted, and then ground, and then vacuum packed within a can, which must be opened with a can opener, common to most households.

Packing coffee immediately after roasting and grinding provides substantial process savings, as the coffee does not require storage to complete the off-gas process. Also, the off-gas product usually contains high quantities of desirable volatile and semi-volatile aromatic compounds that easily volatilize and prevent the consumer from receiving the full benefit of the coffee drinking process. Furthermore, the loss of these aromatic compounds makes them unavailable for release in a standard container, thereby preventing the consumer from the full reception of the pleasurable burst of aromas of fresh roast and ground coffee. This aroma burst of volatile compounds is much more perceptible in a pressurized package than in a vacuum packed package.

It is therefore an object of the present invention to provide a handled package for roast and ground coffee that provides a lighter weight, fresher packing, easier-opening, penable seal, and "burpable" closure alternative to a standard heavy can.

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SUMMARY OF THE INVENTION

The present invention relates to a fresh packaging system for roast and ground coffee. The packaging system comprises a container with a closed bottom, an open top, and a body enclosing a perimeter between the bottom and the top. The top, bottom, and body together define an interior volume. A protuberance is continuously disposed around the perimeter of the body proximate to the top and forms a ridge external to the body. A flexible closure is removably attached and sealed to the protuberance. The container bottom and container body are constructed from a material having a tensile modulus number ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm). The container has a top load capacity of at least about 16 pounds (7.3 Kg).

The present invention also relates to a method for packing coffee using the fresh packaging system for roast and ground coffee. The method steps include filling the container with roast and ground coffee, flushing the container with an inert gas, and, sealing the container with the flexible closure.

The present invention also relates to an article of manufacture that provides the end user with beneficial coffee aroma characteristics. The article comprises a closed bottom, an open top, and a body forming an enclosed perimeter between said bottom and top. The bottom, top, and body together define an interior volume. The body includes a protuberance continuously disposed around the perimeter of the body proximate to the top. The bottom and body are constructed from a polyolefin. A flexible closure is removably attached to the protuberance so that the closure forms a seal with the protuberance. Roast and ground coffee is contained within the interior volume, and, the article of manufacture exhibits an overall coffee aroma value of at least about 5.5.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded perspective view of a preferred embodiment of the fresh packing system in accordance with the present invention;

FIG. 2 is an exploded perspective view of an alternative embodiment of the fresh packing system;

FIG. 3 is a cross-sectional view of an exemplary closure and one-way valve assembly for the fresh packing system;

FIG. 4 is a cross-sectional view of an exemplary overcap assembly for a fresh packing system;

FIG. 5 is an expanded, cross-sectional view of the region labeled 5 in FIG. 4 of the overcap in an applied position;

FIG. 6 is an expanded, cross-sectional view of the region labeled 5 in FIG. 4 of the overcap in an expanded position;

FIG. 7 is an elevational view of an alternative embodiment of the fresh packing system;

FIG. 7A is a bottom planar view of the embodiment of FIG. 7;

FIG. 8 is a perspective view of an alternative embodiment of the fresh packing system;

FIG. 8a is a perspective view of an alternative embodiment of the fresh packing system;

FIG. 9 is an isometric view of an alternative exemplary overcap for use with a fresh packing system;

FIG. 9a is a bottom planar view of the alternative exemplary overcap of FIG. 9; and,

FIG. 10 is a cross-sectional view of the region labeled 10 in FIG. 9 in contact with a fresh packaging system.

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DETAILED DESCRIPTION OF THE INVENTION

The present invention is related to a fresh packaging system for roast and ground coffee. The packaging system comprises a container comprising a closed bottom, and open top and a body having an enclosed perimeter between the bottom and the top where the top, bottom, and body together define an interior volume. A flexible closure is removably attached and sealed to a protuberance disposed around the perimeter of the body proximate to the top. The container bottom and body are constructed from a material having a tensile modulus number ranging from at least about 35,000 (2,381 atm) pounds per square inch to at least about 650,000 (44,230 atm) pounds per square inch, which provides a top load capacity of at least about 16 pounds (7.3 Kg).

The invention is more generally related to a method for the packing of coffee using the container of the present invention. The method steps include filling the container system described above with roast and ground coffee, flushing the container with an inert gas, and, sealing the container with a flexible closure.

The invention is also related to an article of manufacture that provides the end user with beneficial coffee aroma characteristics. The article comprises a closed bottom, an open top, and a polyolefin body forming an enclosed perimeter between said bottom and top together defining an interior volume. The body includes a protuberance continuously disposed around the perimeter of the body proximate to the top. A flexible closure is removably attached to the protuberance so that the closure forms a seal with the protuberance. Roast and ground coffee is contained within the interior volume and, the article of manufacture has an overall coffee aroma value of at least about 5.5. (A method for measuring the overall coffee aroma value is described in the Test Methods section, *infra*.)

The purpose of the present invention, inventive method, and article of manufacture is to provide a useful benefit to the user that includes, but is not limited to, providing a roast and ground coffee with a perceived more fresh and aromatic flavor. Such a container system of the present invention also provides an easy to use and low cost means of delivery of a roast and ground coffee to an end user.

Preferably, but optionally, the container has a handle element disposed thereon. More preferably the handle element is integral with the body of the container. This handle element facilitates gripping of the container system by the end user. This gripping is particularly useful for users with small hands or hands in a weakened condition due to illness, disease, or other medical malady.

Optionally, but preferably, the present invention features a one-way valve located within the closure to release excess pressure built up within the container due to the natural off gas process of roast and ground coffee. It is also believed that changes in external temperature and altitude can also cause the development of pressure internal to the container. The one-way valve is selected to release coffee off gas in excess of a predetermined amount; however, remains sealed after such a release, thereby retaining an aromatically pleasing amount of off gassed product within the container.

Another optional, but preferred, feature of the present invention is an overcap placed over the closure. The overcap can comprise a dome, or cavity, that allows positive, outward deformation of the closure due to the pressure build-up within the container. The overcap is also air tight and flexible to allow for easy application in manufacture, either with, or without, a closure, and by the end user, after end user

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removal, of a closure. The flexible overcap also allows the end user to remove excess air by compressing the dome, thereby releasing excess ambient air from the previously open container (burping). The overcap also provides for a tight seal against the rim of the container after opening by the end user. This tight seal prevents pollution of the rim, resulting in an undesirable exproportion of the overcap after application. The overcap can also optionally allow for stacking several container embodiments when the closure and the dome portion of the overcap are at a point of maximum deflection. The overcap also optionally has a vent to allow for easy removal of vented off gas product trapped between the closure and overcap assemblies, but still allows for "burping."

Also, the overcap can have a rib disposed proximate to and along the perimeter of the overcap defining an inner dome portion and an outer skirt portion. The rib forms a hinge-like structure so that outward deflection of the inner dome portion caused by deflection of the closure due to coffee off gassing causes the rib to act as a cantilever for the skirt portion. Thus, outward deflection of the dome portion causes the skirt portion to deflect inwardly on an outer portion of the container wall, resulting in an improved seal characteristic and improves retaining forces of the overcap with respect to the container.

The Container

Referring to FIG. 1, fresh packaging system 10, generally comprises a container 11 made from a compound, for example, a polyolefin. Exemplary and non-limiting compounds and polyolefins that can be used for producing the present invention include polycarbonate, low-density polyethylene, high-density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, copolymers thereof, and combinations thereof. It should be realized by one skilled in the art that container 11 of the present invention can take any number of shapes and be made of any number of suitable materials. Container 11 generally comprises an open top 12, a closed bottom 13, and a body portion 14. Open top 12, closed bottom 13, and body portion 14 define an inner volume in which a product is contained. Also, closed bottom 13 and body portion 14 are formed from a material having a tensile modulus ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm), more preferably from at least about 40,000 pounds per square inch (2,721 atm) to at least about 260,000 pounds per square inch (17,692 atm), and most preferably ranging from at least about 95,000 pounds per square inch (6,464 atm) to at least about 150,000 pounds per square inch (10,207 atm). Tensile modulus is defined as the ratio of stress to strain during the period of elastic deformation (i.e., up to the yield point). It is a measure of the force required to deform the material by a given amount and is thus, a measure of the intrinsic stiffness of the material.

It is preferred that bottom portion 13 be disposed concave inwardly, or recessed, towards the inner volume so that undesirable deflections caused by pressure increases within the inner volume are minimized. If the bottom 13 expands outwardly sufficiently, causing the bottom 13 to concave outwardly, then the container 11 will develop what is generally referred to in the art as "rocker bottom." That is, if the bottom 13 deflects outwardly so that the container system 10 will not be stable while resting on a flat surface, fresh packaging system 10 will tend to rock back and forth.

As shown in FIG. 7A, a plurality of protrusions 40 can be disposed on the closed bottom 13 of container 11 about the

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longitudinal axis of container 11. In a preferred embodiment, protrusions 40 form an oblique angle with the closed bottom 13 of container 11. If the container 11 assumes a cylindrical shape, it is believed that protrusions 40 can be rectilinearly disposed about the diameter of the closed bottom 13 of container 11. However, one of skill in the art would realize that protrusions 40 could be disposed on the closed bottom 13 of container 11 in any geometrical arrangement. Without wishing to be bound by theory, it is believed that protrusions 40 can protrude past the geometry of the closed bottom 13 of container 11 upon an outward deflection of the closed bottom 13 of container 11. In this way container 11 can maintain a stable relationship with other surfaces should "rocking bottom" be realized upon the development of an outward pressure from within container 11. While the preferred embodiment utilizes four protrusions 40 disposed on closed bottom 13, it should be realized by one of skill in the art that virtually any number of protrusions 40 could be disposed on closed bottom 13 to yield a stable structure upon outward deflection of closed bottom 13. Additionally, protrusions 40 could be a square, triangular, elliptical, quadrilateral, pentagonal, trapezoidal, arranged in multiply nested configurations, provided in an annular ring about closed bottom 13, and combinations thereof.

Again referring to FIG. 7A, an annular ring 42, or any other raised geometry, including interrupted geometrical configurations, can be disposed on closed bottom 13 of container 11. Annular ring 42 could be dimensioned to facilitate nesting, or stacking, of multiple embodiments of containers 11. In other words, annular ring 42 could be designed to provide serial nesting of a container 11 onto the overcap 30 of the preceding, or lower, container 11. Without wishing to be bound by theory, it is believed that the facilitation of nesting by the use of annular ring 42 disposed on closed bottom 13 of container 11 provides enhanced structural stability.

It is also believed that the closed bottom 13 of container 11 could be designed, in what is known to those of skill in the art, as a quad lobe, or pentagonal. Again, without desiring to be bound by theory, it is believed that such a quad lobe, or pentagonal, design could provide enhanced ability to resist the deformation of closed bottom 13 of container 11 due to internal pressures developed within container 11.

Referring again to FIG. 1, container 11 can be cylindrically shaped with substantially smooth sides. Handle portions 15 are respectively formed in container body portion 14 at arcuate positions. A plurality of anti-slip strips 16 can be formed at a predetermined interval within handle portions 15. Handle portions 15 are formed as would be known to one skilled in the art to provide a gripping surface at a most efficacious position to enable users with small hands or debilitating injuries or maladies to grip container portion 11 with a minimum of effort. Further, container 11 can be readily grasped by hand due to the configuration described above. Additionally, container 11 can have a prominance 17 in the form of a rim like structure disposed at the open end of container 11. Prominance 17 can provide a surface with which to removably attach closure 18 and provide a locking surface for skirt portion 32 of overcap 30.

In an alternative embodiment as shown in FIG. 2, container 11a is parallelepiped shaped with substantially smooth sides. Handle portions 15a are respectively formed in container body portion 14a at arcuate positions. A plurality of gripping projections 16a are formed at a predetermined interval within handle portions 15a. Corresponding closure 18a and overcap 30a are fitted on container 11a as would be known to one skilled in the art.

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In an alternative embodiment, as shown in FIG. 7, handle portions 15b can preferably be symmetrical. Without desiring to be bound by theory, it is believed that symmetrical handle portions 15b could prevent inversion of the handle portions 15b upon an increase in pressure from within container 11b. It is believed that symmetrically incorporated handle portions 15b provides for the uniform distribution of the internal pressure, developed within container 11, throughout handle portion 15b.

As is also shown in the alternative embodiment of FIG. 7, all portions of handle portions 15b are presented as either parallel to the longitudinal axis of container 11b or perpendicular to the longitudinal axis of container 11b. Without desiring to be bound by theory, it is believed that handle portions 15b, arranged to provide all component portions of handle portions 15b to be either parallel or perpendicular to the longitudinal axis of container 11b, could be less susceptible to bending forces due to internal pressures developed within container 11b. This could aid in the prevention of catastrophic failure of the container due to the pressures generated internally to container 11b.

Further, providing container 11b with handle portions 15b in a recessed configuration with respect to the body portion 14b of container 11b could require less force from the end user to maintain a firm grip on handle portions 15b of container 11b. Additionally, recessed handle portions 15b could aid in the prevention of an end user supplying extraneous force to the external portions of container 11b thereby causing catastrophic failure or deformation of container 11b.

Referring again to FIG. 1, container 11 exhibits superior top load strength per mass unit of plastic. With the present invention, filled and capped containers can be safely stacked one upon another without concern that the bottom containers will collapse or be deformed. Often, containers are palletized, by which several containers are stacked in arrays that take on a cubic configuration. In the order of 60 cases, each weighing about 30 pounds (13.6 Kg) can be loaded onto a pallet. In certain instances, these pallets can be stacked one upon another. It will be appreciated that the bottommost containers will be subjected to extraordinary columnar forces. Traditionally, polymeric containers are not capable of withstanding such high column forces. Thus, to avoid collapsing or buckling of these stacking situations, the top load resistance of each container should be at least about 16 pounds (7.3 Kg) when the containers are in an ambient temperature and pressure environment. More preferably, each container should exhibit a top load resistance of at least about 48 pounds (21.8 Kg) in accordance with the present invention.

As shown in FIG. 7, the body portion 14b of container 11b can have at least one region of deflection 43 placed therein to isolate deflection of the container 11b due to either pressures internal to container 11b or pressures due to forces exerted upon container 11b. As shown, at least one region of deflection 43 could generally define rectilinear regions of container 11b defined by a cylindrical wall. However, one of skill in the art would realize that at least one region of deflection 43 incorporated into body portion 14b could assume any geometry, such as any polygon, round, or non-uniform shape. Without wishing to be bound by theory, it is believed that a purely cylindrical container 11b, having a uniform wall thickness throughout, will resist compression due to pressure exerted from within container 11b or external to container 11b. However, without desiring to be bound by theory, it is believed that when applied forces exceed the strength of the container wall of purely cylindrical container 11b, deflection could be exhibited in an undesirable denting

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or buckling. Any non-uniformities present in a purely cylindrical container 11b, such as variations in wall thickness, or in the form of features present, such as handle portions 15b, can cause catastrophic failure upon a differential pressure existing between regions external to container 11b and regions internal to container 11b.

However, the incorporation of at least one region of deflection 43 is believed to allow flexion within the body portion 14b of container 11b. Thus, it is believed that body portion 14b can deform uniformly without catastrophic failure and can resist undesirable physical and/or visual effects, such as denting. In other words, the volume change incurred by container 11b due to internal, or external, pressures works to change the ultimate volume of the container 11b to reduce the differential pressure and thus, forces acting on the container wall. It is also believed, without desiring to be bound by theory, that the incorporation of a solid or liquid, or any other substantially incompressible material, can provide substantial resistance to the inward deflection of at least one region of deflection 43. For example, the inclusion of a powder, such as roast and ground coffee, could provide resistance to the inward deflection of at least one region of deflection 43, thus enabling at least one region of deflection 43 to remain substantially parallel to the longitudinal axis of container 11b and thereby providing an effective increase in the top load capability of container 11b. The peelable laminate seal also deflects with external pressure changes further reducing the pressure load on the container.

In a non-limiting, but preferred embodiment, container 11b has at least one region of deflection 43 that can be presented in the form of rectangular panels. The panels have a radius that is greater than the radius of container 11b. The panels are designed to have less resistance to deflection than that of the region of container 11b proximate to the rectangular panels. Thus, any movement exhibited by the panels is isolated to the panels and not to any other portion of container 11b.

As shown in FIG. 1, without desiring to be bound by theory, it is believed that the chime should be sufficient to allow container 11 to compress under vacuum by adapting to base volume changes and will improve the top loading capability of container 11. However, it is further believed that the chime should be as small as is practicable as would be known to one of skill in the art.

As shown in FIG. 7, the body portion 14b of container 11b can also have at least one rib 45 incorporated therein. It is believed that at least one rib 45 can assist in the effective management of isolating the movement of at least one panel 43 by positioning at least one rib 45 parallel to the longitudinal axis of container 11b and proximate to at least one panel 43 in order to facilitate the rotational movement of at least one panel 43 upon an inward, or outward, deflection of at least one panel 43. Further, it is believed that at least one rib 45 can also provide added structural stability to container 11b in at least the addition of top load strength. In other words, at least one rib 45 could increase the ability of container 11b to withstand added pressure caused by the placement of additional containers or other objects on top of container 11b. (One of skill in the art would be able to determine the positioning, height, width, depth, and geometry of at least one rib 45 necessary in order to properly effectuate such added structural stability for container 11b. Further, it would be known to one of skill in the art that at least one rib 45 could be placed on container 11b to be parallel to the longitudinal axis of container 11b, annular about the horizontal axis of container 11b, or be of an

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interrupted design, either linear or annular to provide the appearance of multiple panels throughout the surface of container 11b.

Additionally, container 11b can generally have a finish 46 incorporated thereon. In a preferred embodiment, the finish 46 is of an annular design that is believed can provide additional hoop strength to container 11b and surprisingly, can provide a finger well 44 to assist the user in removal of overcap 30. Further, it is possible for one of skill in the art to add ribs 47 to finish 46 in order to provide further strength to container 11b in the form of the added ability to withstand further top loading. In a preferred embodiment, ribs 47 are disposed parallel to the horizontal axis of container 11b and perpendicular to finish 46.

Container 11, as shown in FIG. 1 is preferably produced by blow molding a polyolefinic compound. Polyethylene and polypropylene, for example, are relatively low cost resins suitable for food contact and provide an excellent water vapor barrier. However, it is known in the art that these materials are not well suited for packaging oxygen-sensitive foods requiring a long shelf life. As a non-limiting example, ethylene vinyl alcohol (EVOH) can provide such an excellent barrier. Thus, a thin layer of EVOH sandwiched between two or more polyolefinic layers can solve this problem. Therefore, the blow-molding process can be used with multi-layered structures by incorporating additional extruders for each resin used. Additionally, the container of the present invention can be manufactured using other exemplary methods including injection molding and stretch blow molding.

In a preferred embodiment in accordance with the present invention, container 11 of FIG. 1, container 11a of FIG. 2, and container 11b of FIG. 7, can be blow molded from a multi-layered structure to protect an oxygen barrier layer from the effects of moisture. In a preferred embodiment, this multi-layered structure can be used to produce an economical structure by utilizing relatively inexpensive materials as the bulk of the structure.

Another exemplary and non-limiting example of a multi-layered structure used to manufacture the container of the present invention would include an inner layer comprising virgin polyolefinic material. The next outward layer would comprise recycled container material, known to those skilled in the art as a "regrid" layer. The next layer would comprise a thin layer of adhesive, the barrier layer, and another adhesive layer to bind the barrier layer to the container. The final outer layer can comprise another layer of virgin polyolefinic material.

A further exemplary and non-limiting example of a multi-layered structure used to manufacture the container of the present invention would include an inner layer comprising virgin polyolefinic material. The next layers would comprise a thin layer of adhesive, the barrier layer, and another adhesive layer to bind the barrier layer to the container. The next outward layer would comprise recycled container material, known to those skilled in the art as a "regrid" layer. The final outer layer can comprise another layer of virgin polyolefinic material. In any regard, it should be known to those skilled in the art that other potential compounds or combinations of compounds, such as polyolefins, adhesives and barriers could be used. Further, an oxygen scavenger can be incorporated into, or on, any layer of a multi-layered structure to remove any complexed or free oxygen existing within a formed container. Such oxygen scavengers can include oxygen scavenging polymers, complexed or non-complexed metal ions, inorganic powders and/or salts, and combinations thereof, and/or any compound capable of

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entering into polycondensation, transesterification, transamidization, and similar transfer reactions where free oxygen is consumed in the process.

Other such materials and processes for container formation are detailed in *The Wiley Encyclopedia of Packaging Technology*, Wiley & Sons (1986), herein incorporated by reference. Preferably, the inner layer of containers 11, 11a, and 11b are constructed from high-density polyethylene (HDPE).

A preferred polyolefinic, blow molded container in accordance with the present invention can have an ideal minimum package weight for the round containers of FIGS. 1 and 7, or the parallelepiped container of FIG. 2, and yet still provide the top load characteristics necessary to achieve the goals of the present invention. Exemplary materials (low-density polyethylene (LDPE), high density polyethylene (HDPE) and polyethylene terephthalate (PET)) and starting masses of these compounds that provide sufficient structural rigidity in accordance with the present invention are detailed in Table 1 below.

TABLE 1

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/inch)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Parallelepiped	LDPE (40,000/2,721)	79 grams	146 grams
Parallelepiped	HDPE (98,000/6,669)	66 grams	123 grams
Parallelepiped	PET (600,000/40,828)	40 grams	74 grams
Round	LDPE (40,000/2,721)	51 grams	95 grams
Round	HDPE (98,000/6,669)	43 grams	80 grams
Round	PET (600,000/40,828)	26 grams	48 grams

It was surprisingly found that a container in accordance with the present invention that is filled with product and sealed to contain the final product has enhanced properties for the same starting compound weight. This provides a benefit in that it is now possible to use less starting material to provide the top load values in accordance with the present invention. Exemplary materials and starting masses of compounds (LDPE, HDPE, and PET) providing the necessary structural rigidity of a filled and sealed container in accordance with the present invention are detailed in Table 2.

TABLE 2

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/inch)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Parallelepiped	LDPE (40,000/2,721)	72 grams	134 grams
Parallelepiped	HDPE (98,000/6,669)	61 grams	112 grams
Parallelepiped	PET (600,000/40,828)	37 grams	68 grams
Round	LDPE (40,000/2,721)	47 grams	87 grams

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TABLE 2-continued

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/inch)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Round	HDPE (98,000/6,669)	39 grams	73 grams
Round	PET (600,000/40,828)	24 grams	44 grams

Again referring to FIG. 1, protuberance 17, in the form of a rim like structure, disposed at the open end of container 11 may have textured surfaces disposed thereon. Textured surfaces disposed on protuberance 17 can comprise raised surfaces in the form of protuberances, annular features, and/or cross-hatching to facilitate better sealing of removable closure 19. Exemplary, but non-limiting, annular features may include a single bead or a series of beads as concentric rings protruding from the seal surface of protuberance 17. While not wishing to be bound by theory, it is believed that a textured surface on protuberance 17 can allow for the application of a more uniform and/or concentrated pressure during a sealing process. Textured surfaces can provide increased sealing capability between protuberance 17 and removable closure 19 due to any irregularities introduced during molding, trimming, shipping processes and the like during manufacture of container 11.

The Removable Closure

Again referring to FIG. 1, fresh packaging system 10 comprises a closure 18 that is a laminated, peelable seal 19 that is removably attached and sealed to container 11. Peelable seal 19 has a hole beneath which is applied a degassing valve, indicated as a whole by reference number 20. One-way valve 20 can be heat welded or glued to peelable seal 19.

In a preferred embodiment according to FIG. 3, the interior of peelable seal 19 to the outer side of peelable seal 19 is a laminate and comprises, in sequence, an inner film 21, such as polyethylene, a barrier layer 22, such as a metallized sheet, preferably metallized PET, metallized PE, or aluminum, and an outer film of plastic 23, such as PET. Inner film 21 is preferably formed from the same material as the outer layer of container 11. Thus, inner film 21 is preferably a polyolefin, and more preferably polyethylene (PE). Plastic outer film 23 is preferably produced from a material such as polyester. However, one skilled in the art would realize that other materials, such as a foil closure, and other stretchable and non-stretchable layer structures can be used and still remain within the scope of the present invention. Additionally, an oxygen scavenger, as described supra, can be incorporated into, or on, any layer of peelable seal 19 to remove free, or complexed, oxygen.

Both inner film 21 and barrier layer 22 are perforated, preferably by means of cuts, pricks, or stampings, to form flow opening 24, as shown in FIG. 3. In the area above the outlet opening, outer film 23 is not laminated to barrier layer 22, thereby forming longitudinal channel 25. Channel 25 extends the entire width of the laminate so that during manufacture, channel 25 extends to the edge of closure 18.

As a result, a very simple and inexpensive one-way valve 20 is formed by means of the non-laminated area of outer film 23 and outlet opening 24. The gases produced by the contents within container 11 may flow through valve 20 to

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the surrounding environment. Since an overpressure exists in container 11, and since outer film 23 usually adheres or at least tightly abuts barrier layer 22 because of the inner pressure, unwanted gases, such as oxygen, are prevented from flowing into container 11 and oxidizing the contents. Thus, outer film 23 serves as a membrane that must be lifted by the inner gas pressure in the packing in order to release gas. It is preferred that one-way valve 20 respond to pressures developed within container 11. This pressure can exceed 10 millibars, and preferably exceed 15 millibars, and more preferably would exceed 20 millibars, and most preferably, exceed 30 millibars.

Additionally, a small amount of liquid can be filled into channel 25. The liquid can be water, siloxane-based oils, or oil treated with an additive so that the oil is prevented from becoming rancid prior to use of the product. The pressure at which the release of internal off gas from container 11 occurs can be adjusted by varying the viscosity of the liquid within channel 25.

In an alternative, but non-limiting, embodiment, a one-way degassing valve can comprise a valve body, a mechanical valve element, and a selective filter as described in U.S. Pat. No. 5,515,994, herein incorporated by reference.

Closure 18 is preferably sealed to container 11 along a rim (protuberance) 17 of container 11. Preferable, but non-limiting, methods of sealing include a heat sealing method incorporating a hot metal plate applying pressure and heat through the closure material and the container rim, causing a fused bond. The seal strength achieved is generally a result of the applied pressure, temperature, and dwell time of the sealing process. However, it should be known to one skilled in the art, that other types of seals and seal methods could be used to achieve a bond with sufficient and effective seal strength, including, but not limited to, a plurality of annular sealing beads disposed on rim 17.

As shown in FIG. 8, in an alternative embodiment, peelable seal 19c of container 11c can include a pivotable pouring device 50. Pivotable pouring device 50 can be placed at any location on peelable seal 19c or at any position on container 11c. In a preferred embodiment, it is also believed that pivotable pouring device 50 could be disposed on a non-peelable seal located under peelable seal 19c in the interior volume of container 11c. This could enable a user to remove peelable seal 19c, exposing the non-peelable seal having the pivotable pouring device 50 disposed thereon. The user could then pivot the pivotable pouring device 50 to dispense a product contained within container 11c. After dispensing the product from container 11c via pivotable pouring device 50, the user could pivot the pivotable pouring device 50 to effectively close non-peelable seal, thereby effectively sealing container 11c. As would be known to one of skill in the art, exemplary, but non-limiting, examples of pivotable pouring device 50 include pouring spouts.

It is believed that pivotable pouring device 50 could have dimensions that facilitate the flow of product from container 11c, as would be known to one of skill in the art. A depression, slot, or other orifice can be disposed on either peelable seal 19c or the non-peelable seal to facilitate insertion of a user's appendage or other device to aid in the application of force necessary to pivot pivotable pouring device 50.

In the alternative embodiment of FIG. 8a, a striker bar 52, formed from either a portion of peelable seal 19d or a non-peelable seal, can be used to strike off excess product from a volumetric measuring device. Without wishing to be bound by theory, it is believed that striker bar 52 could facilitate more consistent measurements of product by

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increase the packing density and volume present within the volumetric measurement device. Further, it is believed that the presence of the remainder of peelable seal 19d or a non-peelable seal can assist in the retention of the various aromatic and non-aromatic gases that naturally evolves from a product held within container 11d.

The Overcap

Referring to FIG. 1, fresh packaging system 10 optionally comprises an overcap 30 comprised of dome portion 31, skirt portion 32, rib 33, and optionally vent 34. As a non-limiting example, overcap 30 is generally manufactured from a plastic with a low flexural modulus, for example, low-density polyethylene (LDPE), high-density polyethylene (HDPE), polyethylene (PE), polypropylene (PP), linear low-density polyethylene (LLDPE), polycarbonate, polyethylene terephthalate (PET), polystyrene, polyvinyl chloride (PVC), co-polymers thereof, and combinations thereof. This allows for an overcap 30 that has a high degree of flexibility, yet, can still provide sufficient rigidity to allow stacking of successive containers. By using a flexible overcap 30, mechanical application during packaging as well as re-application of overcap 30 to container 11 after opening by the consumer is facilitated. A surprising feature of a flexible overcap 30 is the ability of the end user to "bump" excess atmospheric gas from container 11 thereby reducing the amount of oxygen present. Further, an oxygen scavenger, as described supra, can be incorporated into, or on, any layer of peelable seal 19 to remove free, or complexed, oxygen.

Dome portion 31 is generally designed with a curvature, and hence height, to accommodate for an outward displacement of closure 18 from container 11 as a packaged product, such as roast and ground coffee, off gases. The amount of curvature needed in dome portion 31 can be mathematically determined as a prediction of displacement of closure 18. As a non-limiting example, a nominal height of dome portion 31 can be 0.242 inches (0.61 cm) with an internal pressure on closure 18 of 15 millibars for a nominal 6-inch (15.25 cm) diameter overcap. Further, the dome portion 31 is also generally displaceable beyond its original height as internal pressure rises in container 11, causing closure 18 to rise prior to the release of any off gas by one-way valve 20.

Referring to FIG. 4, overcap 30 comprises a rib 33. Rib 33 protrudes outwardly from the generally planar dome portion 31 and serves as a physical connection between dome portion 31 and skirt 32. Generally, skirt 32 has a hook shape for lockingly engaging protuberance 17 of container 11. Rib 33 isolates skirt 33 from dome portion 31, acting as a cantilever hinge so that outward deflections (O) of dome portion 31 are translated into inward deflections (I) of skirt 33. This cantilevered motion provides for an easier application of overcap 30 to container 11 and serves to effectively tighten the seal under internal pressures.

Additionally, rib 33 can allow for successive overcaps to be stacked for shipping. Skirt 32 preferably has a flat portion near the terminal end to allow for nesting of successive overcaps. Furthermore, rib 33 can extend sufficiently away from dome portion 31 so that successive systems may be stacked with no disruption of the stack due to a maximum deflection of closure 18 and the dome portion 31 of overcap 30. Without desiring to be bound by theory, it is believed that the downward load force rests entirely on rib 33 rather than across dome portion 31. Resting all downward forces on rib 33 also protects closure 18 from a force opposing the outward expansion of closure 18 from container 11 due to the off gas generated by a contained product.

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As shown in FIG. 5, an exploded view of the region around rib 33, dome portion 31 correspondingly mates with protuberance 17 of container 11. As a non-limiting example, container 11, after opening, requires replacement of overcap 30. A consumer places overcap 30 on container 11 so that an inside edge 34 of rib 33 contacts protuberance 17. A consumer then applies outward pressure on skirt 32 and downward pressure on dome portion 31, expelling a majority of ambient air entrapped within the headspace of container 11. As shown in FIG. 6, the inside edge 34 of rib 33 then fully seats on protuberance 17, producing a complete seal. In a non-limiting example, protuberance 17 varies from -5° to $+5^\circ$ from a line perpendicular to body 14. Inside edge 34 is designed to provide contact with protuberance 17 for this variation. As another non-limiting example, overall travel of the inside edge 34 of rib 33 has been nominally measured at three millimeters for a protuberance 17 width of four to six millimeters. It has been found that when protuberance 17 is angularly disposed, protuberance 17 forms a sufficient surface to provide for sealing adhesive attachment of closure 18 to protuberance 17.

Additionally, the inside edge 34 of rib 33 can effectively prevent the pollution of protuberance 17, with or without closure 18 in place, thereby providing a better seal. As pressure within container 11 builds due to off gas from the entrained product, dome portion 31 of overcap 30 deflects outward. This outward deflection causes the inside edge 34 of rib 33 to migrate toward the center of container 11 along protuberance 17. This inward movement results in a transfer of force through rib 33 to an inward force on skirt portion 32 to be applied to container wall 14 and the outer portion of protuberance 17, resulting in a strengthened seal. Additionally, significant deflections of dome 31 due to pressurization of closure 18 causes the inside edge 34 to dislocate from protuberance 17 allowing any vented off gas to escape past protuberance 17 to the outside of overcap 30. This alleviates the need for a vent in overcap 30.

As shown in FIG. 9, in an alternative embodiment of overcap 30b comprises a plurality of nested cylindrical formations. In other words, in this alternative embodiment, the base of overcap 30b, having a diameter, d, forms a base portion 60 upon which the upper portion 62 of overcap 30b, having a diameter, d-Ad, is disposed thereon. The upper portion 62 of overcap 30b can have an annular protuberance 64 disposed thereon. It is believed that the annular protuberance 64 disposed upon the upper portion 62 of overcap 30b can provide a form upon which annular ring 42 disposed upon closed bottom 13, can lockably nest.

As shown in FIGS. 9a and 10, in an alternative embodiment, the inner surface of the base portion 60 of overcap 30b can have an annular sealing ring 66 disposed thereon. Annular sealing ring 66 was surprisingly found to facilitate the mating of surfaces corresponding to annular sealing ring 66 and the finish portion of container 11. Mating the surfaces in this manner can provide an audible recognition that both surfaces have made contact and that a secure seal between protuberance 17 and the inner surface of overcap 30b has been made. A surprising feature of overcap 30b is the ability of the end user to "bump" excess atmospheric gas from container 11 thereby reducing the amount of oxygen present. Further, it is believed that an inner surface of base portion 60 mate with at least a portion of protuberance 17 so that there is provided an overlap of the inner surface of base portion 60 with protuberance 17. One of skill in the art would realize that any configuration of the annular sealing ring 66 may be used to provide the facilitation of the corresponding mating surfaces, including, but not limited to, interrupted annular

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rings, a plurality of protuberances, and combinations thereof. It is also believed that providing a protuberance 69 in the form of an annular ring, plurality of protuberances, and other protuberances known to one of skill in the art, can provide a method of stacking a plurality of overcaps 30b prior to overcap 30b being applied to a container.

As shown in FIG. 9a, it was surprisingly found that a plurality of protuberances 68 disposed upon the inner surface of overcap 30b could facilitate the replacement of overcap 30b upon container 11. Without desiring to be bound by theory, it is believed that a plurality of protuberances 68 could facilitate overcap 30b replacement. It is further believed that the plurality of protuberances 68 disposed upon the inner surface of overcap 30b can effectively translate the horizontal component of a force applied to overcap 30b during replacement of overcap 30b upon container 11 through the plurality of protuberances 68 thereby allowing the plurality of protuberances 68 to effectively traverse over the edge of container 11 and ultimately aligning the longitudinal axis of overcap 30b with the longitudinal axis of container 11. It would be realized by one of skill in the art that the plurality of protuberances 68 could comprise a plurality of spherical, semi-spherical, elliptical, quarter-round, and polygonal projections, indentations, and combinations thereof.

Coffee Packaging

A preferred method of packaging a whole, roast coffee in accordance with the present invention to provide a more freshly packed coffee product, is detailed herein.

A whole coffee bean is preferably blended and conveyed to a roaster, where hot air is utilized to roast the coffee to the desired degree of flavor development. The hot roasted coffee is then air-cooled and subsequently cleaned of extraneous debris.

In a preferred, but non-limiting step, a whole roast coffee is cracked and normalized (blended) before grinding to break up large pieces of chaff. The coffee is then ground and cut to the desired particle size for the grind size being produced. The ground coffee then preferably enters a normalizer that is connected to the bottom of the grinder heads. In the normalizer, ground coffee is preferably slightly mixed, thus, improving the coffee appearance. As another non-limiting step, the coffee discharges from the normalizer and passes over a vibrating screen to remove large pieces of coffee.

The ground coffee is then preferably sent to a filler surge hopper and subsequently to a filling apparatus (filler). The filler weighs a desired amount of coffee into a bucket that in turn, dumps the pre-measured amount of coffee into a container manufactured as detailed supra. The container is then preferably topped-off with an additional amount of coffee to achieve the desired target weight.

The container is then preferably subjected to an inert gas purge to remove ambient oxygen from the container headspace. Non-limiting, but preferred, inert gases are nitrogen, carbon dioxide, and argon. Optionally, an oxygen scavenger, as described supra, and generally present in the form of a packet can be included within the container to provide removal of free or complexed oxygen. A closure, as disclosed supra, is placed on the container to effectively seal the contents from ambient air. Preferably the closure has a one-way valve disposed thereon. An overcap, disclosed supra, is then applied onto the container, effectively covering the closure and locking into the container sidewall ridge. The finished containers are then packed into trays, shrink wrapped, and unitized for shipping.

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Freshness

It is believed that the resolving inventive packaging system provides a consumer with a perceptively fresher packed roast and ground coffee that provides a stronger aroma upon opening of the package and the perception of a longer-lasting aroma than is apparent with repeated and sustained openings of the packaging system. Not wishing to be bound by any theory, it is believed that roast and ground coffee elutes gases and oils that are adsorbed onto the polyolefinic compound comprising the inside of the container and closure. Upon removal of the closure, the polyolefinic compound then evolves these adsorbed gases and oils back into the headspace of the sealed container. It is also believed that the inventive packaging system can also prevent the infiltration of deleterious aromas and flavors into the packaging system. Thus, the construction of the instant packaging system can be altered to provide the benefit of most use for the product disclosed therein. To this end, it is further believed that the packaging system can be utilized for the containment of various products and yet provide the benefits discussed herein.

Applicants characterize the surprising aroma benefits provided by the present article of manufacture in terms of the article's "overall coffee aroma value", which is an absolute characterization. Applicants also characterize the aroma benefits relative to a control article (a prior art metallic can, as described below). Such a characterization is referred to herein as the article's "differential coffee aroma value". The methods for measuring overall coffee aroma value and differential coffee aroma value are described in detail in the Test Method section infra. The article of manufacture will have an overall coffee aroma value of at least about 5.5. Preferably, the article will have an overall coffee aroma value of least about 6, more preferably at least about 6.5, still more preferably at least about 7, and still more preferably at least about 7.5.

Preferably, the article of manufacture of the present invention will have a differential coffee aroma value of at least about 1.0, more preferably at least about 2.0, and most preferably at least about 2.8.

Test Method

A test container and an existing industry standard metallic container (control container) are packed with identical fresh roast and ground coffee product, prepared as stated above, and stored for 120 days prior to testing. Immediately prior to testing, the containers are emptied and wiped with a paper towel to remove excess roast and ground coffee product. Each container is then capped and let stand prior to testing in order to equilibrate. During testing, each container used is exchanged with another similarly prepared, but, unused container at one-hour intervals. A control container is a standard 603, tin-plated, 3-pound (1.36 Kg), vacuum-packed, steel can.

Individual panelists are screened for their ability to discriminate odors utilizing various standard sensory methodologies as part of their sensory screening. Panelists are assessed for aroma discriminatory ability using the gross olfactory acuity-screening test (universal version) as developed by Sensonics, Inc., for aroma. This test method involves a potential panelist successfully identifying aromas in a "scratch and sniff" context.

Forty successful, qualified panelists are then blindfolded and each evaluates a test container and a control container. Each blindfolded panelist smells a first container (either test container or control container) and rates the aroma on a 1 to 9 point scale (integers only) with reference to the following description: no aroma (1) to a lot of aroma (9). After a brief

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relief period, the blindfolded panelist evaluates the second container. The range for overall aroma is again assessed by panelists using the same rating system.

The panel results for overall coffee aroma value are then tabulated and statistically evaluated. Standard deviations based on a Student T statistical test are calculated with 95% confidence intervals to note where statistically significant differences occur between the mean values of the two products tested. Exemplary and statistically adjusted results of a "blind test" panel using existing packaging methodologies for roast and ground coffee are tabulated in Table 3, as follows:

TABLE 3

Roast and Ground Coffee Sensory Panel Results for Comparing Inventive Articles vs. Existing Articles at 120 days at 70° F. (21° C.)

	Inventive Package (Plastic)	Standard Steel Package (Control)
No. Respondents	40	40
Amount of Coffee Aroma	7.3	4.5

Based upon this test panel, it was surprisingly found that the present articles of manufacture provide a perceived "fresher" roast and ground coffee end product for a consumer. The improvement in overall coffee aroma was increased from the control sample adjusted panel value of 4.5 to an adjusted panel value of 7.3 for the inventive article, resulting in a differential adjusted value of 2.8.

While particular embodiments of the present invention have been illustrated and described, it will be obvious to those skilled in the art that various changes and modifications may be made without departing from the spirit and scope of the invention. One skilled in the art will also be able to recognize that the scope of the invention also encompasses interchanging various features of the embodiments illustrated and described above. Accordingly, the appended claims are intended to cover all such modifications that are within the scope of the invention.

What is claimed is:

1. A packaging system comprising:

- a container having a longitudinal axis and comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said top; wherein said bottom, top, and body together define an interior volume;
- wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;
- a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;
- a handle disposed on said body; and
- a flexible closure removably attached and sealed to said protuberance;
- wherein said bottom and said body are constructed from a material having a tensile modulus number ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm);

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wherein said container has a top load capacity of at least about 16 pounds (7.3 kg); and wherein said closure has a one-way valve disposed thereon.

2. The packaging system as claimed in claim 1 wherein said flexible closure comprises a foil.

3. The packaging system as claimed in claim 1 wherein said flexible closure is a laminate comprising a first layer, a second layer, and a barrier layer disposed therebetween.

4. The packaging system as claimed in claim 3 wherein said first layer is a polyolefin.

5. The packaging system as claimed in claim 4 wherein said valve is responsive to internal pressures within said container exceeding 10 millibars.

6. The packaging system as claimed in claim 5 wherein said valve is responsive to internal pressures within said container exceeding 20 millibars.

7. The packaging system as claimed in claim 6 wherein said valve is responsive to internal pressures within said container exceeding 30 millibars.

8. The packaging system as claimed in claim 1 wherein said bottom and said body are formed from a blow-moldable material.

9. The packaging system as claimed in claim 8 wherein said material is a polyolefin.

10. The packaging system as claimed in claim 8 wherein said blow-moldable material is selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.

11. The packaging system as claimed in claim 1 wherein said material is a multi-layered structure.

12. The packaging system as claimed in claim 11 wherein said multi-layered structure further comprises a polyolefin layer proximate to said interior volume and at least one layer that is an oxygen barrier.

13. The packaging system as claimed in claim 12 wherein said polyolefin is selected from the group consisting of low density polyethylene, high density polyethylene, polypropylene, co-polymers thereof, and combinations thereof.

14. The packaging system as claimed in claim 1 wherein said handle is integral with said body.

15. The packaging system as claimed in claim 1 wherein said handle is substantially parallel to said longitudinal axis of said container.

16. The packaging system as claimed in claim 1 further comprising an overcap having a rib disposed proximate to and along the perimeter of said overcap, said rib defining an inner dome portion and an outer skirt portion of said overcap.

17. The packaging system as claimed in claim 16 wherein said rib has a height at least equal to the maximum displacement of said dome portion.

18. The packaging system as claimed in claim 16 wherein said overcap is constructed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.

19. The packaging system of claim 1 wherein said at least one region of deflection is responsive to at least one force internal or external to said container.

20. The packaging system as claimed in claim 1 wherein said tensile modulus number ranges from at least about 40,000 pounds per square inch (2,721 atm) to at least about 260,000 pounds per square inch (17,692 atm).

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21. The packaging system as claimed in claim 20 wherein said tensile modulus number ranges from at least about 90,000 pounds per square inch (6,124 atm) to at least about 150,000 pounds per square inch (10,207 atm).

22. The packaging system as claimed in claim 1 wherein coffee is placed therein.

23. The packaging system as claimed in claim 22 wherein said coffee is roast and pound.

24. The packaging system as claimed in claim 23 wherein said container containing said roast and ground coffee is flushed with an inert gas.

25. The packaging system as claimed in claim 24 wherein said inert gas is selected from the group consisting of nitrogen, carbon dioxide, argon, and combinations thereof.

26. The fresh packaging system as claimed in claim 1 wherein said top load capacity is at least about 48 pounds (21.8 Kg).

27. A method for packing coffee using the fresh packaging system of claim 1 comprising the steps of:

filling said container with roast and ground coffee; flushing said container with an inert gas; and, sealing said container with said flexible closure.

28. The method of claim 27 further comprising the step of: placing an overcap over said flexible closure, said overcap having a rib disposed proximate to and along the perimeter of said overcap, said rib defining an inner dome portion and an outer skirt portion of said cap.

29. The method of claim 27 further wherein said flexible closure further comprises a valve responsive to internal pressures within said container exceeding 10 millibars.

30. The method of claim 27 wherein said handle is integral with said body.

31. The packaging system of claim 1, wherein said container further comprises at least one rib parallel to the longitudinal axis, said rib adding structural stability to said container with respect to top load capacity.

32. The packaging system of claim 31 wherein said at least one region of deflection is in the form of a rectangular panel and said at least one rib is proximate thereto.

33. An article of manufacture comprising:

a closed bottom;

an open top;

a body forming an enclosed perimeter between said bottom and top;

wherein said bottom, top, and body together define an interior volume;

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

wherein said body includes a protuberance continuously disposed around the perimeter of said body proximate to said top; and,

wherein said bottom and body are constructed from a polyolefin;

a flexible closure having a one-way valve disposed thereon, the closure removably attached to said protuberance wherein said closure forms a seal with said protuberance;

roast and ground coffee contained within said interior volume; and,

wherein said article of manufacture has an overall coffee aroma value of at least about 5.5.

34. The article of manufacture of claim 33 wherein said overall coffee aroma value is at least about 6.5.

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35. The article of manufacture of claim 34 wherein said overall coffee aroma value is at least about 7.3.

36. The article of manufacture of claim 33 wherein said polyolefin is selected from the group consisting of low density polyethylene, high density polyethylene, polypropylene, co-polymers thereof, and combinations thereof.

37. A packaging system comprising:
 a container for holding coffee having a longitudinal axis and comprising a closed bottom, an open top, a handle, and a body having an enclosed perimeter between said bottom and said top;
 wherein said bottom, top, and body together define an interior volume;
 wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;
 a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;
 a flexible closure removably attached and sealed to said protuberance; and, wherein said bottom and said body are constructed from a material having a tensile modulus number ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm); and wherein said container has a top load capacity of at least about 16 pounds (7.3 kg).

38. The packaging system of claim 37 wherein said handle is disposed on said body of said container.

39. The packaging system of claim 37 wherein said handle is integral with said body.

40. The packaging system of claim 37 wherein said handle is substantially parallel to said longitudinal axis of said container.

41. The packaging system of claim 37 wherein said bottom and said body are formed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof and combinations thereof.

42. The packaging system of claim 37 wherein said container contains coffee therein.

43. The packaging system of claim 37 wherein said container contains roast and ground coffee therein.

44. A packaging system comprising:
 a container for holding coffee having a longitudinal axis and comprising a closed bottom, an open top, a handle, a one-way valve and a body having an enclosed perimeter between said bottom and said top;
 wherein said bottom, top, and body together define an interior volume;
 wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

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a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;
 a flexible closure removably attached and sealed to said protuberance; and,
 wherein said bottom and said body are constructed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof and combinations thereof.

45. The packaging system of claim 44 wherein said handle is disposed on said body of said container.

46. The packaging system of claim 44 wherein said handle is integral with said body.

47. The packaging system of claim 44 wherein said handle is substantially parallel to said longitudinal axis of said container.

48. The packaging system of claim 44 wherein said container contains coffee therein.

49. The packaging system of claim 48 wherein said coffee is roast and ground.

50. A packaging system comprising:
 a container for holding coffee having a longitudinal axis and comprising a closed bottom, an open top, a handle, and a body having an enclosed perimeter between said bottom and said top;
 wherein said bottom, top, and body together define an interior volume;
 wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;
 a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body;
 a flexible closure removably attached and sealed to said protuberance; and, wherein said bottom and said body are constructed from a material selected from the group consisting of polycarbonate, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof and combinations thereof.

51. The packaging system of claim 50 wherein said handle is disposed on said body of said container.

52. The packaging system of claim 50 wherein said handle is integral with said body.

53. The packaging system of claim 50 wherein said handle is substantially parallel to said longitudinal axis of said container.

54. The packaging system of claim 50 wherein said container contains coffee therein.

55. The packaging system of claim 54 wherein said coffee is roast and ground.

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14 **UNITED STATES DISTRICT COURT**
 15 **NORTHERN DISTRICT OF CALIFORNIA**
 16 **SAN FRANCISCO DIVISION**
 17

18 THE PROCTER & GAMBLE COMPANY,)
 19 Plaintiff,)
 v.)
 20 KRAFT FOODS GLOBAL, INC.,)
 21 Defendant.)
 22)
 23)
 24)
 25)
 26)
 27)
 28)

Case No.: C07-04413 PJH

Honorable Phyllis J. Hamilton

**PLAINTIFF THE PROCTER & GAMBLE
 COMPANY'S NOTICE OF MOTION AND
 MOTION FOR A PRELIMINARY
 INJUNCTION; MEMORANDUM OF
 POINTS & AUTHORITIES IN SUPPORT
 OF SAME.**

Date: October 24, 2007

Time: 9:00 a.m.

Court: Courtroom 3, 17th Floor

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1 PLEASE TAKE NOTICE that on October 24, 2007 at 9:00 a.m., or as soon thereafter as the
2 counsel can be heard, in the Courtroom of the Honorable Phyllis J. Hamilton, United States District
3 Court Judge, Plaintiff, The Procter & Gamble Company's ("P&G"), will and hereby does move for an
4 order granting a preliminary injunction to prevent Defendant Kraft Global Foods, Inc. ("Kraft") from
5 continuing to infringe U.S. Patent No. 7,169,418 ("the P&G Patent").

6 **I. SUMMARY OF ARGUMENT**

7 This case involves Kraft's failed attempt to invalidate a P&G patent in a U.S. Patent &
8 Trademark Office ("USPTO") reexamination proceeding, its decision to nevertheless infringe the
9 patent, and the irreparable harm that Kraft will cause to P&G unless it is enjoined.

10 P&G and Kraft are direct competitors in the market for ground, roast coffee. P&G sells Folgers
11 brand coffee and Kraft sells Maxwell House coffee. For many decades, both companies packed and
12 sold their coffee in cylindrical metal cans. Beginning in the late 1990s, P&G developed a
13 breakthrough new container technology that radically changed its product. P&G replaced its
14 traditional metal can with an innovative new plastic container. To bring this new plastic container to
15 market, P&G's engineers had to overcome many technical challenges in a research-and-development
16 project that lasted several years and cost several million dollars. P&G's efforts resulted in an award-
17 winning, easy-to-use, plastic container branded AromaSeal® because of its ability to keep coffee
18 smelling fresher longer. In 2003, when P&G boldly introduced its new packaging technology, over the
19 skepticism of its competitors, including Kraft, consumers rewarded P&G's innovations by giving
20 Folgers a commanding lead in the market for ground, roast coffee. In January 2007, the USPTO
21 awarded P&G's inventors U.S. Patent No. 7,169,418, giving P&G the exclusive right to use the
22 technology that continues to make P&G the market leader today.

23 P&G is entitled to a preliminary injunction because (1) it is likely to succeed on the merits of
24 its infringement claim; (2) it would suffer irreparable harm from continued infringement; (3) the
25 balance of hardships weighs in its favor; and (4) the public interest favors granting an injunction.

26 P&G's likelihood of succeeding on the merits is clear. A comparison of P&G's patent claims
27 with Maxwell House's plastic container shows that Kraft is infringing not only the broader claims, but
28

1 also many narrower claims. P&G is just as likely to succeed against Kraft's invalidity arguments. The
 2 P&G patent carries a statutory presumption of validity, and that presumption is more difficult to
 3 overcome now that the USPTO has rejected Kraft's invalidity arguments in a recent reexamination.

4 Irreparable harm from Kraft's infringement is presumed from P&G's strong showing of
 5 infringement and validity. P&G need not rely, however, solely on that presumption. Kraft's continued
 6 infringement would injure P&G in ways that could not be remedied by an award of money damages.
 7 Offering consumers the innovative plastic container P&G developed will allow Kraft to (1) diminish
 8 P&G's hard-earned market share and position as market leader; (2) erode the price that consumers
 9 have been willing to pay for P&G's innovations; (3) reduce P&G's ability to draw consumers to
 10 Folgers brand coffee and develop consumer loyalty; (4) diminish the goodwill that P&G has earned as
 11 the exclusive source of a superior technology; (5) decrease P&G's sales of specialty products that P&G
 12 promotes using its plastic containers; and (6) exploit P&G's years of research and development.

13 The balance of the hardships also favors granting an injunction. If Kraft suffers any loss to its
 14 business from an injunction, it has only itself to blame. Kraft chose to introduce a new product that
 15 infringes P&G's patent, even after the USPTO, at Kraft's request, confirmed the validity of P&G's
 16 patent claims over Kraft's invalidity arguments. And Kraft's self-inflicted harm will be minimal:
 17 Kraft can continue selling Maxwell House coffee using its non-infringing metal cans.

18 Finally, public policy, which favors protecting the rights secured by valid patents, favors
 19 protecting P&G's rights in this case. Kraft is selling coffee, not a pharmaceutical or another critical
 20 product that might justify denying a preliminary injunction.

21 Because each of the four factors weighs heavily in favor of P&G, the Court should enter the
 22 requested preliminary injunction and prevent Kraft's continued infringement.

23 **II. STATEMENT OF ISSUES TO BE DECIDED**

24 P&G's motion requires the Court to decide five issues:

25 (1) whether P&G is likely to succeed on the merits by proving that Kraft is infringing by
 26 making, selling, and offering for sale Kraft's 39-ounce plastic container of Maxwell House ground,
 27 roast coffee and by preventing Kraft from showing invalidity of its asserted patent claims by clear and
 28

1 convincing evidence;

2 (2) whether P&G faces irreparable harm from Kraft's continued infringement;

3 (3) whether the balance of the hardships favors granting a preliminary injunction;

4 (4) whether the public interest favors granting a preliminary injunction; and

5 (5) whether Kraft should be enjoined from making, using, selling, offering for sale, or
6 importing ground, roast coffee in its 39-ounce plastic containers.

7 **III. STATEMENT OF RELEVANT FACTS**

8 P&G's Folgers, a 153-year old brand of ground, roast coffee, is the most popular brand of
9 ground, roast coffee in the United States today. Declaration of Jason Gemeiner In Support of P&G's
10 Motion For A Preliminary Injunction ("Gemeiner Decl.") ¶4. Folgers' current market share is
11 estimated as between 32% and 33% while Kraft's Maxwell House accounts for an estimated 19%
12 share of the market. Gemeiner Decl. ¶4.

13 Fresh ground, roast coffee gives off substantial amounts of oils and gases, including carbon
14 dioxide gas. Declaration of David Dalton In Support of P&G's Motion For A Preliminary Injunction
15 ("Dalton Decl.") ¶ 6. Although these oils and gases create a pleasant aroma, the emitted gases generate
16 high pressures inside the container. *Id.* To deal with this problem, coffee manufacturers historically
17 have tried to eliminate the emitted gases by storing the ground coffee in bins before packing it into
18 containers. *Id.*, ¶ 7. In addition, for decades, manufacturers packed coffee in vacuum-packed metal
19 cans. *Id.* Although these metal cans are sturdy and can withstand high pressures, they have a number
20 of disadvantages, including that they tend to be heavy, difficult and unwieldy for consumers to use,
21 cannot be easily opened and require a tool (e.g., a can opener), cannot easily be molded into various
22 shapes, and are subject to permanent deformation, or denting. *Id.*

23 As early as in 1997, P&G began looking at packaging forms as an alternative to the traditional
24 metal can, including using plastic coffee containers. Dalton Decl., ¶ 5. In 1999, a team of P&G
25 engineers conducted consumer focus groups to identify features that coffee consumers wanted. *Id.*
26 P&G found that consumers preferred several features that the conventional metal cans lacked,
27 including easy-to-hold, easy-to-store, easy-to-open (without a can opener), and keeping the coffee
28

1 fresh long after opening the container. *Id.* This led to features such as molding the container with
 2 particular plastic materials to keep the container lightweight and provide design flexibility to promote
 3 coffee freshness, molding a handle into the container, sealing the container with a laminated foil, and
 4 incorporating a Tupperware-style lid. *Id.* Designing an improved container required P&G's engineers
 5 to solve a number of technical problems. *Id.*, ¶ 8. For example, while plastics offered a lighter way to
 6 store coffee, they could deform under pressure from the emitted gases and changes in altitude during
 7 shipping. *Id.* Another problem was that plastic coffee containers are not inherently as strong as metal
 8 containers and must be designed to withstand the weight of the containers stacked above them (i.e., as
 9 in a pallet) during shipping. *Id.* Yet another problem was that the high pressure caused by the emitted
 10 gases inside the container could unseal the flexible seal placed on the coffee container. *Id.*

11 To solve the problems posed by the use of plastic containers while taking advantage of plastic's
 12 advantageous properties, P&G's engineers developed and incorporated a number of different
 13 technologies to achieve an innovative new design:

- 14 • a multi-layered plastic structure, coupled with structural design elements to: (1)
 15 provide an internal layer to absorb coffee odors and oils so that the container itself
 16 would give consumers a pleasant coffee aroma; (2) provide a middle, barrier layer to
 17 block outside gases (chiefly oxygen) from entering the container and making the
 18 coffee smell bad or becoming stale; and (3) to provide rigid support to the container.
 19 Dalton Decl. ¶ 9.
- 20 • flexible regions called "regions of deflection," that control how the container deforms
 21 in response to internal or external pressures to help prevent it from becoming dented or
 22 otherwise distorted. *Id.*
- 23 • a ridge on top of the container at its opening to attach an easy-to-peel flexible foil seal
 24 to keep the coffee fresh before it was sold. *Id.*
- 25 • a one-way valve on the seal to allow the emitted gases to escape without letting air
 26 back into the container so as to prevent the emitted coffee gases from damaging the
 27 container. *Id.*
- 28 • a handle molded into the container. *Id.*
- a flexible "overcap" on top of the container with an airtight seal reminiscent of
 Tupperware. *Id.*

On May 24, 2002, after about five years and \$5 million in research and development, P&G

1 filed a patent application on its new container technology with the USPTO.¹ See Declaration of Greg
 2 Huntington In Support of P&G's Motion For A Preliminary Injunction I ("Huntington Decl.") ¶3;
 3 Davidson Ex. 1. The application described and claimed the inventive packaging system that allowed
 4 P&G to replace traditional metal coffee cans with lightweight and durable plastic containers that would
 5 appeal to consumers, keep coffee fresh, and address the challenges of storing and shipping roast,
 6 ground coffee. See Ex. 1.² The USPTO examined P&G's application for four and a half years. *Id.* In
 7 doing so, USPTO Examiners considered an extensive body of over 150 patents and other documents
 8 demonstrating the state of the prior art. *Id.* at 1-3.

9 In 2003, while the USPTO was examining P&G's patent application, P&G converted its entire
 10 line of roast, ground coffee production to its new plastic container design, incurring millions of dollars
 11 to retool its manufacturing facility in New Orleans. Mills Decl. ¶7. This changeover to the new design
 12 cost P&G at least \$30 million. Huntington Decl., ¶30. P&G advertised its technology under the
 13 trademark "AromaSeal," emphasizing the benefits of the revolutionary container design, including the
 14 improved aroma and freshness of the coffee, its peel-off seal, flavor-protecting air valve, tight-fitting
 15 lid, and easy-to-grip handle. Mills Decl. ¶6. Recognizing the threat posed by P&G's innovative
 16 technology, Kraft immediately engaged in a negative advertising campaign against the plastic
 17 container. Declaration of Edward Bello In Support of P&G's Motion For A Preliminary Injunction
 18 ("Bello Decl.") ¶4. Using its ads, Kraft tried to convince consumers that only traditional metal cans
 19 could keep coffee fresh:

20 Have you seen that new plastic coffee container? Did you know it actually absorbs
 21 aroma from the coffee? At Maxwell House, we think the aroma should stay where it
 22 belongs: in the coffee, not the container! Our steel can won't absorb OUR rich coffee
 23 aroma and, unlike plastic, it's a perfect barrier against coffee's worst enemies, moisture
 24 and oxygen. So, choose Maxwell House with the fresh seal steel can and make every day
 25 good to the last drop. Bello Decl. ¶4.

26 Despite Kraft's negative ads, consumers reacted as P&G's extensive research had predicted,

27 ¹ P&G based its May 24, 2002 patent application on a provisional application filed on June 4, 2001.

28 ² Unless otherwise stated, all exhibits are to the Declaration of Ben M. Davidson In Support of P&G's
 Motion For A Preliminary Injunction ("Davidson Decl.).

overwhelmingly preferring P&G's plastic containers over traditional metal coffee cans, including Kraft's. Declaration of Rudy Schmeller In Support of P&G's Motion For A Preliminary Injunction ("Schmeller Decl.") ¶3; Bello Decl. ¶¶4, 5, 12; Roe Decl. ¶4. Consumers were readily willing to pay 25 to 40 cents more for coffee sold in the patented plastic container because of the advantages it provided over metal cans, including Kraft's. Schmeller Decl. ¶8; Gemeiner Decl. ¶8. Simultaneously, P&G was able to achieve significant increases in market share while strengthening customer loyalty among a significant percentage of consumers—coffee drinkers who switch to Folgers brand coffee and then make this brand their long-term coffee of choice. Gemeiner Decl. ¶8. Coffee consumers' widespread approval of P&G's new and innovative design was echoed by consumer groups and other organizations. The Arthritis Foundation awarded P&G's design its "Ease of Use Commendation." Huntington Decl. ¶5. Dupont awarded P&G the Dupont Award for Innovation in Packaging. *Id.* Food and Drug Packaging magazine named P&G's design the "Package of the Year." *Id.* The Institute of Packaging Professionals gave P&G its "Ameristar Award," recognizing that P&G's technology was "as dramatic a move" in the industry as when "glass was replaced by plastic 20 years ago." *Id.*

The USPTO also recognized the inventive contributions of P&G's engineers. On January 30, 2007, it granted P&G U.S. Patent No. 7,169,418. Ex. 1. The very next day, Kraft challenged the validity of P&G's patent by initiating an *inter partes* reexamination proceeding in the USPTO. Ex. 2, p. 71. Kraft had four years to prepare its challenge because the USPTO had published P&G's patent application on January 16, 2003.³ Ex. 1. On June 7, 2007, after considering all of Kraft's arguments and prior art documents, the USPTO confirmed the validity of all 55 claims of P&G's patent by issuing an Action Closing Prosecution. Ex. 2, pp. 5-22. Just two months later, although it had failed to invalidate P&G's patent, Kraft proceeded to introduce an infringing plastic 39-ounce coffee container with an integral handle, one-way valve on the flexible seal, regions of deflection formed into the container, and other features of P&G's patented packaging system such as particular tensile strength,

³ On January 21, 2005, Kraft also submitted P&G's published patent application to the USPTO during the prosecution of two of its design patents for plastic coffee containers, D520,371 and D518,735.

load capacity, and plastic material.⁴ See Huntington Decl. ¶4. Meanwhile, Kraft continues to advertise and sell its ground, roast coffee in metal cans. Davidson Decl. ¶5, Ex. 4.

IV. A PRELIMINARY INJUNCTION IS NECESSARY TO PREVENT KRAFT FROM INFLECTING FURTHER IRREPARABLE HARM TO P&G

The patent laws give a patent owner the right to preclude others from infringing its patent by making, using, selling, offering for sale or importing the patented invention. 35 U.S.C. §§ 271, 283. To protect that right, Congress has authorized district courts to grant preliminary injunctive relief “in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.” *Id.* at § 283.

A. Legal Standards For Granting Preliminary Injunctions In Patent Cases

P&G is entitled to a preliminary injunction if it shows that the equities favor the grant of an injunction under a four-factor test, considering: (1) the likelihood that P&G will prevail on the merits; (2) whether P&G will be irreparably harmed in the absence of an injunction; (3) whether the threatened injury to P&G outweighs the harm a preliminary injunction would cause Kraft; and (4) whether the preliminary injunction will serve the public interest. *Abbott Labs. v. Andrx Pharms., Inc.*, 452 F.3d 1331, 1333 (Fed. Cir. 2006); *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1370 (Fed. Cir. 2005). None of these four factors can by itself determine whether the Court should issue a preliminary injunction. The Court must instead weigh and measure each factor against the other factors and against the form and magnitude of the relief requested. *Hybritech, Inc. v. Abbott Labs.*, 849 F.2d 1446, 1451 (Fed. Cir. 1988). As demonstrated below, each of the factors in this case weighs in favor of enjoining Kraft’s continued infringement.

B. P&G Is Likely To Succeed On The Merits Of Its Infringement Claim

A grant of preliminary injunctive relief does not require proof of infringement beyond all question. *H.H. Robertson, Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 390 (Fed. Cir. 1987),

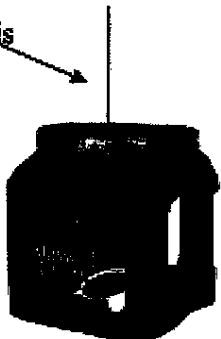

⁴ The exact timing of Kraft’s introduction of the product is unclear. P&G first became aware of Kraft’s new container in August 2007 and is not aware of any announcements made by Kraft before it introduced its infringing product. Huntington Decl. ¶5.

overruled by *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (on other grounds). P&G just needs to show a reasonable likelihood of success at trial on any one of its patent claims. *Id.* To make this showing, P&G may submit the claims and the structure of the accused product and identify how those claims cover the accused product. *Roper Corp. v. Litton Sys., Inc.*, 757 F.2d 1266, 1271 (Fed. Cir. 1985). In the context of a preliminary injunction, “[a] clear showing of infringement is, for example, a literal reading of the claims on the accused device. . . .” *Unique Concepts, Inc. v. Manuel*, No. 85 C 4181, 186 U.S. Dist. LEXIS 22765, at *28 (N.D. Ill. July 15, 1986) (citing *Atlas Powder Co. v. Ireco Chemicals*, 773 F.2d 1230, 1233 (Fed. Cir. 1985)). An accused product infringes a claim when each limitation of the claim can be found in the product, either exactly or by a substantial equivalent. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1577 (Fed. Cir. 1989). As explained in the table below, because each and every limitation in at least claims 1, 11, 12, 13, 15, 21, 33, 37, and 43 of the ‘418 patent is at least literally present in Kraft’s plastic 39-ounce Maxwell House coffee containers, Kraft infringes at least these claims.⁵

Claim ⁶	Maxwell House 39-ounce coffee container
1. A packaging system comprising:	The Maxwell House container is a packaging system in that it provides a package for holding 39 ounces of custom roast, ground coffee. Zeik Decl. ¶ 4.
a container having a longitudinal axis and comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said	As shown below, the Maxwell House container has a longitudinal axis with a closed bottom, an open top (covered in the photograph by the gold lid) and a body having an enclosed perimeter between the bottom and top.

⁵ For the purposes of this motion, P&G identifies nine claims that demonstrate the clear and literal infringement of Kraft’s plastic container. P&G reserves the right to assert additional claims and, to the extent that Kraft tries to escape a finding of infringement based on any alleged substantial differences between the claims and its product, P&G reserves the right to rely on the doctrine of equivalents.

⁶ Because the meaning of the claim terms is clear, they do not require construction and have been given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-14 (Fed. Cir. 2005) (*en banc*) (“[T]he words of a claim ‘are generally given their ordinary and customary meaning,’” and “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.” “In some cases, [as here,] the ordinary meaning of patent claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”)

<p>1 Claim⁶</p> <p>2 top; [element a]</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p>	<p>Maxwell House 39-ounce coffee container</p> <p><i>Id.</i>, ¶ 5. See also, Kraft's U.S. Patent Application US 2007/0187420 at [00042-43] (Davidson Ex. 3) (describing a container nearly identical to the Maxwell House container as having a base, four sides extending upward from base and top connected to the sides so that the container defines a main interior volume to hold particulate coffee).</p> <p>Longitudinal axis</p>  <p>The diagram shows a perspective view of a Maxwell House 39-ounce coffee container. A vertical line passes through the center of the container, labeled 'Longitudinal axis' with an arrow pointing to it.</p>
<p>13 wherein said bottom, top, and body</p> <p>14 together define an interior volume;</p> <p>15 [element b]</p>	<p>The bottom, top and body of Maxwell House container define an interior volume that holds 39 ounces of roast ground coffee. <i>Id.</i>, ¶ 6; Davidson Ex. 3 at [00042-43].</p>
<p>16 wherein said body comprises at least</p> <p>17 one region of deflection disposed</p> <p>18 thereon, and wherein said region of</p> <p>19 deflection allows flexion and thereby</p> <p>20 has less resistance to flexing than the</p> <p>21 body of said container proximate to said</p> <p>22 region of deflection; [element c]</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>The body of the Maxwell House container has at least two regions of deflection. <i>Id.</i>, ¶ 7.</p> <p>region of deflection</p>  <p>The diagram shows a perspective view of a Maxwell House 39-ounce coffee container. A line points to a specific area on the side panel, labeled 'region of deflection'.</p> <p>The region of deflection allows the body to flex and has less resistance to flexing than the curved body portions of the container next to the regions of deflection. <i>Id.</i>, ¶ 8; Davidson Ex. 3 at [0059] (describing vertical and horizontal ribs next to the side panels [regions of deflection] "to prevent side panel warping and distortion.")</p>

Claim⁶

a protuberance continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a ridge external to said body; [element d]

The P&G patent explains that the protuberance can provide a surface with which to removably attach the flexible closure. See Col. 5, line 55-59 ("Additionally, container 11 can have a protuberance 17 in the form of a rim like structure disposed at the open end of container 11. Protuberance 17 can provide a surface with which to removably attach closure 18 and provide a locking surface for skirt portion 32 of overcap 30.").

Maxwell House 39-ounce coffee container

The Maxwell House container has a protuberance (or ridge) continuously disposed around the perimeter of the body at the top. The protuberance forms a ridge external to the body in that it extends upward and away from the body. *Id.*, ¶ 9. The protuberance on the Maxwell House container provides a surface on which to attach the flexible closure. *Id.*; Davidson Ex. 3 at [0043] (describing a circular rim at the top of the container)



a handle disposed on said body; [element e] and

The Maxwell House container has a handle disposed on the body of the container. *Id.*, ¶ 5; Davidson Ex. 3 at [0051] (describing container as having a handle).

a flexible closure removably attached and sealed to said protuberance; [element f]

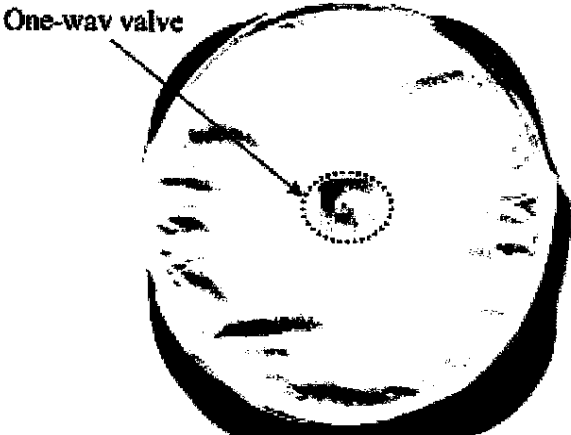
The Maxwell House container has a flexible metallic foil closure that is removably attached and sealed to the protuberance. As shown below, the flexible closure is visible when the cover is removed. *Id.*, ¶ 10; Davidson Ex. 3 at [0045] (describing that the container opening is covered by a "peelable sheet (including foil, plastic or layere foil/plastic).")

flexible closure



wherein said bottom and said body are constructed from a material having a tensile modulus number ranging from at


The bottom and body of the Maxwell House container are made of a material having a tensile modulus at least about 35,000 pounds per square inch to at least about 650,000

1 Claim⁶	Maxwell House 39-ounce coffee container
2 least about 35,000 pounds per square 3 inch (2,381 atm) to at least about 4 650,000 pounds per square inch (44,230 5 atm); [element g]	pounds per square inch. <i>Id.</i> , ¶ 12. P&G's testing shows that the Maxwell House container has a tensile strength of about 107,000 psi to 111,000 psi. <i>Id.</i>
6 wherein said container has a top load 7 capacity of at least about 16 pounds (7.3 8 kg); [element h]	The Maxwell House container has a top load capacity of at least 16 pounds. <i>Id.</i> , ¶ 13. More specifically, the Maxwell House container has a top load capacity of about 180 pounds. <i>Id.</i> ; Davidson Ex. 3 at [0047] (describing container as having a top load capacity of 350 pounds).
9 and wherein said closure has a one-way 10 valve disposed thereon. [element i]	<p>The Maxwell House container has a one-way valve on the foil seal. <i>Id.</i>, ¶ 11; Davidson Ex. 3 at [0045] (describing the "peelable sheet" of foil as having a one-way valve).</p> 
16 11. The packaging system as claimed in 17 claim 1 wherein said material is a multi- 18 layered structure.	P&G's testing shows that the Maxwell House container has a multi-layered material including an interior layer of HDPE material, a middle, barrier layer of EVOH material, and an outer layer of HDPE material. <i>Id.</i> , ¶ 14; Davidson Ex. 3 at [0041] (describing container material as being multi-layered).
20 12. The packaging system as claimed in 21 claim 11 wherein said multi-layered 22 structure further comprises a polyolefin 23 layer proximate to said interior volume 24 and at least one layer that is an oxygen 25 barrier.	P&G's testing shows that the Maxwell House container has a multi-layered material consisting of an interior layer of HDPE, a middle, barrier layer of EVOH, and an outer layer of HDPE. <i>Id.</i> , ¶ 14. The interior layer of HDPE is a polyolefin. <i>Id.</i> See also '418 patent, col. 4, lines 28-35 (HDPE is a polyolefin). The middle layer of EVOH is an oxygen barrier. <i>Id.</i> See also '418 patent, col. 8, lines 15- 25 (EVOH can provide an excellent oxygen barrier); Davidson Ex. 3 at [0041] (describing the multi-layered container material as being HDPE and including an O ₂ barrier layer).
26 13. The packaging system as claimed in 27 claim 12 wherein said polyolefin is 28 selected from the group consisting of low density polyethylene, high density	P&G's testing shows that the Maxwell House container has a multi-layered material consisting of an interior layer of high density polyethylene (HDPE), a middle, barrier layer of EVOH, and an outer layer of HDPE. <i>Id.</i> , ¶ 14;

-11- MEMORANDUM IN SUPPORT OF THE MOTION
FOR A PRELIMINARY INJUNCTION
CASE NO. C07-04413 PJH H

1	Claim⁶	Maxwell House 39-ounce coffee container
2	polyethylene, polypropylene, co-	Davidson Ex. 3 at [0041] (describing the multi-layered
3	polymers thereof, and combinations	container material as being HDPE).
4	thereof.	
5	15. The packaging system as claimed in	The Maxwell House container has a handle that is
6	claim 1 wherein said handle is	substantially parallel to the longitudinal axis of the
7	substantially parallel to said longitudinal	container. <i>Id.</i> , ¶ 5; Davidson Ex. 3 at [0051] (describing
8	axis of said container.	the handle as having a generally vertical segment).
9	21. The packaging system as claimed in	The bottom and body of the Maxwell House container are
10	claim 20 wherein said tensile modulus	made of a material having a tensile modulus at least about
11	number ranges from at least about	90,000 pounds per square inch to at least about 150,000
12	90,000 pounds per square inch (6,124	pounds per square inch. <i>Id.</i> , ¶ 12. P&G's testing shows
13	atm) to at least about 150,000 pounds	that the Maxwell House container has a tensile strength of
14	per square inch (10,207 atm). ⁷	about 107,000 psi to 111,000 psi. <i>Id.</i>
15	33. An article of manufacture	The Maxwell House container is an article of
16	comprising:	manufacture.
17	a closed bottom; an open top; a body	See claim 1, element a.
18	forming an enclosed perimeter between	
19	said bottom and top;	
20	wherein said bottom, top, and body	See claim 1, element b.
21	together define an interior volume;	
22	wherein said body comprises at least	See claim 1, element c.
23	one region of deflection disposed	
24	thereon, and wherein said region of	
25	deflection allows flexion and thereby	
26	has less resistance to flexing than the	
27	body of said container proximate to said	
28	region of deflection;	
	wherein said body includes a	See claim 1, element d.
	protuberance continuously disposed	
	around the perimeter of said body	
	proximate to said top; and,	
	wherein said bottom and body are	See claim 12.
	constructed from a polyolefin;	
	a flexible closure having a one-way	See claim 1, elements f and i.
	valve disposed thereon, the closure	
	removable attached to said protuberance	
	wherein said closure forms a seal with	
	said protuberance;	
	roast and ground coffee contained	The Maxwell House container contains roast and ground
	within said interior volume; and,	coffee. <i>Id.</i> , ¶ 4.

⁷ Claim 20 depends from claim 1 and reads: "[t]he packaging system as claimed in claim 1 wherein said tensile modulus number ranges from at least about 40,000 pounds per square inch (2,721 atm) to at least about 260,000 pounds per square inch (17,692 atm)." '418 patent, col. 17, lines 64-67.

Claim⁶	Maxwell House 39-ounce coffee container
wherein said article of manufacturer has an overall coffee aroma value of at least about 5.5.	The Maxwell House container has an overall coffee aroma value of at least about 5.5. Floyd Decl., ¶¶ 3-9. P&G's testing shows that the Maxwell House container has overall coffee aroma value of 6.23. <i>Id.</i> , ¶ 9.
43. The packaging system of claim 37 wherein said container contains roast and ground coffee therein.	The Maxwell House container label (shown below) says that it contains roast and ground coffee. <i>Id.</i> , ¶ 4. Claim 43 depends from claim 37, which is identical to claim 1, except that it does not require a one-way valve. For the reasons given with claim 1, the Maxwell House container infringes claim 37.
	

C. Kraft Is Unlikely To Succeed On The Merits Of Its Invalidity Claim

P&G's patent is entitled to a statutory presumption of validity. 35 U.S.C. § 282. Kraft bears the burden of establishing invalidity of each patent claim by clear and convincing evidence. *Nystrom v. Trex Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005), *cert. denied*, 547 U.S. 1055 (2006). Although Kraft ultimately bears the burden of proving invalidity, on a motion for preliminary injunction the patentee has to establish a reasonable likelihood that the patent challenger will be unable to establish invalidity by clear and convincing evidence. *Oakley, Inc. v. Sunglass Hut Int'l*, 316 F.3d 1331, 1339 (Fed. Cir. 2003). Stated differently, P&G must show that Kraft's defense does not raise a substantial question of invalidity when considered in light of the statutory presumption of validity as well as Kraft's burden to prove invalidity by clear and convincing evidence. *Id.* Given the extensive prior art submitted in connection with P&G's initial examination of its patent and the USPTO's recent affirmation of the validity of P&G's patent, P&G has established a reasonable likelihood that Kraft will not be able to prove invalidity by clear and convincing evidence.

From May 24, 2002, when P&G filed its patent application, to January 30, 2007, when the USPTO granted P&G's patent, the USPTO considered an extensive amount of potential prior art: 144

1 United States patents, four foreign patent documents and several non-patent publications. *See* Ex. 1.
 2 Moreover, on January 31, 2007 Kraft filed a request for *inter partes* reexamination of P&G's patent
 3 seeking to have all 55 claims of P&G's patent held invalid. In its 102-page reexamination request,
 4 Kraft argued that P&G's patent claims were invalid based on 48 different combinations of prior art.
 5 Yet, despite having four years to obtain evidence and develop arguments to invalidate P&G's patent,
 6 Kraft could not find any evidence that P&G's patented inventions were not novel. Kraft instead
 7 argued that the inventions would have been "obvious" despite the years and millions of dollars of
 8 effort that it took P&G to develop this technology, Kraft's own skepticism about using a plastic
 9 container for coffee, the technology's undeniable commercial success, the wide-spread praise that the
 10 technology has earned, and Kraft's recent attempt to seek patents for its own plastic coffee container.
 11 *See* Davidson Ex. 2 at 81.⁸ In addition, Kraft based many of its invalidity arguments on prior art that
 12 the USPTO already had considered. *See id.* Kraft urged the USPTO to reconsider these prior art
 13 documents because the original USPTO examiner allegedly had "either forgotten or overlooked," or
 14 "fail[ed] to notice" the disclosures in these documents. *Id.* at 89-90.

15 By choosing to attack the validity of P&G's patent at the USPTO, Kraft tried to maximize its
 16 chances of proving invalidity because its burden there would be easier to meet. A party attacking a
 17 patent in federal court must overcome the statutory presumption of validity by presenting clear and
 18 convincing evidence that each challenged claim is invalid. In a reexamination proceeding, however,
 19 there is no presumption of validity. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988). The
 20 intent of reexaminations is to "start over" at the USPTO and to determine if the claims are valid based
 21 on a preponderance of evidence standard. *Id.* Also, while in litigation, the claims must be construed
 22 narrowly, if possible, to sustain their validity, *Amhil Enters. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed.
 23 Cir. 1996), in reexamination examiners must give claims their broadest reasonable interpretations to
 24 determine whether the claims impermissibly encompass the prior art. 37 CFR § 1.555(b)(2)(ii).

25 _____
 26 ⁸ In its patent application for its Maxwell House plastic container, Kraft admits that "[c]ontainers for
 27 particulate (roast or ground) coffee have many unique requirements not considered for other
 28 containers." Davidson Ex. 3 at paragraph [0002].

Despite the more stringent standard, on June 7, 2007, the USPTO reaffirmed the validity of all 55 claims and issued an Action Closing Prosecution of the P&G's patent. Ex. 2 at 5-22. In doing so, the assigned three-member panel of USPTO Examiners (different from the examiners that examined the original application) addressed and rejected each and every argument that Kraft had advanced in its reexamination request. *Id.* Because Kraft lost its invalidity challenge at the USPTO, despite its lower standard of proof and its broader claim constructions, it is reasonably likely that Kraft will also fail to invalidate P&G's patent claims at trial. As the Federal Circuit explained in affirming a preliminary injunction, "recognizing the presumption of validity and the fact that the [plaintiff's] patent has already been subjected to reexamination, [plaintiff] has at this point in the case shown that it is reasonably likely to withstand [defendant's] validity challenge." *Oakley*, 316 F.3d at 1342. That is because Kraft would have to show that the USPTO Examiners did not do their jobs properly either during the initial examination or during the reexamination that Kraft initiated. *E. I. Du Pont de Nemours & Co. v. Polaroid Graphics Imaging, Inc.*, 706 F. Supp. 1135, 1141 (D. Del. 1989) (after reexamination, a defendant's burden becomes more difficult especially where it relies on prior art that the USPTO considered both during the original and reexamination proceedings).⁹ Indeed, once Kraft exhausts its appeals, it will be statutorily precluded from even challenging the validity of the P&G patent on any grounds that it raised or could have raised in the reexamination. 35 U.S.C. § 315(c).

D. P&G Will Be Irreparably Harmed Unless Kraft Is Enjoined

1. Irreparable Harm Is Presumed From P&G's Strong Showing Of Infringement And Validity

Because P&G has shown a strong likelihood of success on the merits of its infringement claim, it is entitled to a presumption of irreparable harm. *Pfizer, Inc. v. Teva Pharms, USA, Inc.*, 429 F.3d

⁹ See also *E.I. Du Pont de Nemours & Co. v. Cetus Corp.*, No. C-89-2860 MHP, 1990 U.S. Dist LEXIS 18414, at **8-10 (N.D. Cal. Dec. 3, 1990) (where the PTO has reissued or upheld the patent, a challenger's burden of proving invalidity in subsequent litigation is heavier than it would otherwise be); *Thermal Eng'g Corp. v. Clean Air Sys.*, 706 F. Supp. 436, 444 (W.D.N.C. 1987) (same); *CVI/Beta Ventures v. Custom Optical Frames*, 893 F. Supp. 508, 516 (D. Md. 1995) (in a preliminary injunction, the presumption of validity is "enhanced" where the patent survived reexamination).

1 1364, 1381 (Fed. Cir. 2005). As the Federal Circuit has explained, “because the very nature of a patent
 2 provides the right to exclude, infringement of a valid patent inherently causes irreparable harm in the
 3 absence of exceptions such as a finding that future infringement is no longer likely, that the patentee is
 4 willing to forgo its right to exclude by licensing the patent, or that the patentee had delayed in bringing
 5 suit.” *Id.* at 1381 (citation omitted.)

6 **2. P&G Has Also Made An Affirmative Showing Of Irreparable Harm**

7 P&G does not rely solely on the presumption of irreparable harm. Its request for an injunction
 8 is supported by the need to prevent Kraft from damaging the superior position that P&G has earned in
 9 the market, including by (1) eroding P&G’s superior market share, ability to attract new market
 10 entrants, and position as the market leader; (2) eroding the price that consumers are willing to pay to
 11 reward P&G for its R&D investment in the patented technology; (3) preventing P&G from exclusively
 12 selling its patented products to create customer loyalty; (4) diminishing the goodwill that P&G has
 13 developed with consumers, (5) reducing P&G’s sales of specialty products that it provides with its
 14 plastic containers; and (6) unfairly taking advantage of P&G’s substantial investment in developing
 15 superior plastic container technology. Schmeller Decl. ¶¶3-8; Bello Decl. ¶¶6-12; Roe Decl. ¶¶5-9;
 16 Gemeiner Decl. ¶¶9-20; Huntington Decl. ¶¶5-8; Mills Decl. ¶¶8-10.

17 These six types of harm all stem from Kraft’s position as P&G’s principal direct competitor in
 18 the ground, roast coffee market. Direct competition is a factor that weighs heavily in the determination
 19 of irreparable injury.¹⁰ That is because a competitor has the “right, granted by Congress, not to assist
 20 its rivals with the use of proprietary technology.” *800 Adept, Inc. v. Murex Sec., Ltd.*, No. 6:02-CV-

21
 22
 23
 24 ¹⁰ See *Brooktrout, Inc. v. Eicon Networks Corp.*, No. 2:03-CV-59, 2007 U.S. Dist. LEXIS 43107 at
 25 ***3-4 (E.D. Tex. June 14, 2007) (granting permanent injunction against direct competitor); *Visto Corp.*
 26 *v. Seven Networks, Inc.*, 2:03-CV-333-TJW, 2006 U.S. Dist. LEXIS 91453, at **12-13 (E.D. Tex. Dec.
 27 19, 2006) (same); *02 Micro Int’l Ltd. v. Beyond Innovation Tech., Co.*, No. 2-04-CV-32 (TJW), 2007
 28 U.S. Dist. LEXIS 25948, at ***7-8 (E.D. Tex. Mar. 21, 2007) (same); *Jacobsen v. Cox Paving*, No. 89-
 1786 PHX PGR, 1991 U.S. Dist. LEXIS 17787, *4 (D. Ariz. May 16, 1991) (same), *aff’d*, 949 F.2d
 404 (Fed. Cir. 1991).

1 1354-Orl-28 DAB, 2007 U.S. Dist. LEXIS 27051 at *24 (M.D. Fla. Apr. 12, 2007); *Novozymes A/S v.*
 2 *Genencor Int'l, Inc.*, 474 F. Supp. 2d 592, 613 (D. Del. 2007).

3 The Federal Circuit recognizes that harm to a company's market position and its relationship
 4 with its customers can support a finding of irreparable harm. *See, e.g., Purdue Pharma L.P. v.*
 5 *Boehringer Ingelheim GmbH*, 237 F.3d 1359, 1368 (Fed. Cir. 2001) (testimony regarding price erosion
 6 and loss of market position supported the irreparable-harm showing needed to obtain preliminary
 7 injunction); *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1566-67 (Fed. Cir. 1996)
 8 (affirming preliminary injunction based, in part, on irreparable harm from threat to patentee's market
 9 position). While "there is no *presumption* that money damages" is always inadequate compensation
 10 for a potential loss of market share, once a showing of irreparable harm has been made, a defendant
 11 cannot rebut that showing by asserting that it has sufficient funds to answer for any losses. *Polymer*
 12 *Techs. v. Bridwell*, 103 F.3d 970, 976 (Fed. Cir. 1996) (quoting *Nutrition 21 v. United States*, 930 F.2d
 13 867, 872 (Fed. Cir. 1991)). As the Federal Circuit has emphasized, "[t]he patent statute . . . provides
 14 injunctive relief to preserve the legal interests of the parties *against future infringement* which may
 15 have market effects never fully compensable in money." *Atlas Powder*, 773 F.2d at 1233. If monetary
 16 relief were the sole relief available to patentees, then "infringers could become compulsory licensees
 17 for as long as the litigation lasts." *Id.* *See also Roper Corp.*, 757 F.2d at 1269 n.2 (rejecting the view
 18 that there is no irreparable harm when an alleged infringer has the ability to compensate patentee in
 19 money damages). The Federal Circuit also explained in *Polymer Technologies* that an award of money
 20 damages at the end of litigation cannot make the patentee whole when the infringer has taken away the
 21 patentee's exclusive market position or otherwise changed the marketplace:

22 Competitors change the marketplace. Years after infringement has begun, it may be
 23 impossible to restore a patentee's (or an exclusive licensee's) exclusive position by an
 24 award of damages and a permanent injunction. Customers may have established
 relationships with infringers. The market is rarely the same when a market of multiple
 sellers is suddenly converted to one with a single seller by legal fiat.

25 *Polymer Techs.*, 103 F.3d at 975-76. *See also Oakley*, 316 F.3d at 1345 (affirming preliminary
 26 injunction based in part on exclusive market share).

27 Courts in this district also have recognized that an infringer's threats to interfere with a
 28

competitor patentee's exclusive market position can support a finding of irreparable harm. *See Visto Corp. v. Sprogit Techs., Inc.*, 413 F. Supp. 2d 1073, 1092 (N.D. Cal. 2006) (irreparable harm found, in part, based on direct competition, rapidly changing market, and potential that infringing sales could establish long-term relationships); *Kristar Enters., Inc. v. Revel Envtl. Mktg., Inc.*, No. C98-3094 CRB, 1998 U.S. Dist. LEXIS 19914, at **14-16 n. 9 (N.D. Cal. Dec. 16, 1998) ("By inserting products which likely infringe . . . into the market, [defendant] is not merely taking profits away from plaintiff [but is] is developing relationships with potential . . . clients [of the plaintiff] and detracting from [plaintiff's] ability to present its product to the consuming public as one that is uniquely designed to serve its needs."); *Sinclair Int'l v. FMC Corp.*, No. C97-01885 CAL, 1997 U.S. Dist. LEXIS 14963, at *6 (N.D. Cal. Sept. 10, 1997) ("Sinclair has made an adequate showing of irreparable injury resulting from FMC's conduct, including threatened loss of Sinclair's market share and good will.").

a. Irreparable Harm From Erosion of P&G's Superior Market Share

Beginning in 2003, when P&G introduced its patented container, it increased its share of the total market for ground, roast coffee in the United States from about 29% to between 32% and 33%. Gemeiner Decl. ¶¶10-11 and Gemeiner Decl. Ex. 2. As P&G's Senior Account Executive for Folgers explains, this was a significant win in the competitive market for ground, roast coffee. Schmeller Decl. ¶3. While P&G was gaining market share because of the introduction of its plastic container, Kraft's market share declined significantly. Gemeiner Decl. ¶¶10-11; Gemeiner Decl. Exs. 1-2. By competing with P&G using infringing plastic container, Kraft is poised to regain at least part of the market share advantage that P&G has earned. *Id.* ¶¶10-13; Bello Decl. ¶6; Schmeller Decl. ¶3. Kraft's new plastic packaging also will make it more difficult to grow market share among consumers who are just beginning to brew coffee at home. Gemeiner Decl. ¶18. An award of damages could not adequately compensate P&G for the loss of its superior market position. "This is because it is impossible to determine the portions of the market the patent owner would have secured but for the infringer's actions or how much damage was done to the patent owner's brand." *Commonwealth Scientific & Indus. Research Org. v. Buffalo Tech, Inc.*, 492 F. Supp. 2d 600, 605 (E.D. Tex. 2007). Kraft will inflict more harm on P&G by diminishing its superior market share than can be accounted

for by an award of infringement damages. It also would be extremely difficult to calculate secondary effects of P&G's lost market share on P&G's business. Diminishing sales will lead to qualitative losses, including the loss of "captaincy" status, which allows P&G to partner with retailers to meet shoppers' needs and strengthen long-term relationships. Schmeller Decl. ¶¶4-7.

b. Irreparable Harm From Kraft's Ability As A Free-Rider To Sell Infringing Products At Lower Prices

Kraft also will cause irreparable harm by eroding the price that consumers are willing to pay for the use of P&G's patented technology. Not having made the investment that led to the development of P&G's patented technology, Kraft can and does sell coffee in its plastic containers for the same price it charges for coffee sold in metal cans. Schmeller Decl. ¶7; Gemeiner Decl. ¶17; Bello Decl. ¶7. Until now, consumers have been willing to pay up to 40 cents more for P&G's 39-ounce containers because of the advantages the patented technology has offered.¹¹ Schmeller Decl. ¶8. Kraft's use of P&G's own patented technology will eliminate or at least reduce consumers' incentive to pay for the use of the technology. *Id.* After becoming accustomed to using the patented technology at the lower prices driven by Kraft's infringing sales, consumers will not be easily persuaded to pay for the use of the technology at prices currently charged by P&G. As the Federal Circuit recognized in *Polymer Technologies*, "[r]equiring purchasers to pay higher prices after years of paying lower prices to infringers is not a reliable business option." *Polymer Techs.*, 103 F.3d at 976.

c. Irreparable Harm From Loss Of Customer Loyalty

A third type of harm caused by Kraft's infringement affects P&G's ability to foster customer loyalty toward the Folgers brand. A certain percentage of coffee consumers are considered "switchers" because they have not yet become loyal to any one brand of coffee and can still be persuaded to buy a different brand of coffee from one shopping trip to the next. Roe Decl. ¶7. P&G

¹¹ As a packaging consultant explained in a recent article about this lawsuit, "Packaging is critically important in commodity-type products like coffee, orange juice and sugar -- products that are very similar A successful packaging innovation can help boost sales." Gemeiner Decl. Ex. 3.

has historically tracked the percentage of consumers who are loyal to the Folgers brand. Gemeiner Decl. ¶15. After introducing its patented plastic containers, P&G recorded an increase of 6% in customer loyalty. *Id.* This increase is significant because it strengthens the value of P&G's Folgers brand, making it less like a commodity based on price alone. By continuing to sell infringing products that have the same advantages as P&G's product, Kraft diminishes P&G's ability to develop long-term relationships and loyalty with customers who otherwise would have associated the advantages of P&G's innovative plastic container with the Folgers brand. Gemeiner Decl. ¶14-16; Rose Decl. ¶7. Kraft also would increase its own customer loyalty by using P&G's patented technology to get consumers to start drinking, and develop a taste for, Maxwell House coffee. *See TiVo Inc. v. EchoStar Comm'n Corp.*, 446 F. Supp. 2d 664, 670 (E.D. Tex. 2006) (defendants' infringement caused irreparable harm to plaintiff's long-term customer base because DVR consumers are "sticky customers" who tend to remain loyal to the company from which they first obtained their DVR).

d. Irreparable Harm From Lost Goodwill

The fourth area in which P&G would suffer irreparable harm from Kraft's continued infringement is in the goodwill that it has created by developing its patented product. For generations, coffee has been delivered to the American consumer using standard metal cans that are difficult to open, heavy, and awkward to hold with one hand. Mills Decl. ¶8. By delivering its patented, lightweight plastic container with an easy-to-hold handle, P&G eliminated these problems and provided additional advantages, including improved coffee aroma from the plastic container itself. *Id.* All these innovations create goodwill among coffee consumers, who appreciate that P&G is the innovative company that brought them a container that improved upon the old metal cans used by Kraft and other competitors. *Id.* The goodwill created by P&G is reflected in awards it received, including an award from the Arthritis Foundation, which recognized the ease with which arthritis patients were opening and handling P&G's lightweight plastic containers, and which P&G uses in its advertisements and promotions. ¶9. The goodwill is reflected in numerous packaging design awards recognizing that P&G's product design provided added value to consumers. Huntington Decl. ¶7.

1 By competing with P&G using P&G's patented technology, Kraft is diminishing the goodwill
 2 that P&G is entitled to enjoy as the exclusive provider of its patented container. Mills Decl. ¶¶8-10.
 3 Where, as here, "a company pioneers an invention in the marketplace, irreparable harm flows from a
 4 competitor's attempts to usurp the pioneering company's market position and goodwill." *800 Adept*,
 5 2007 U.S. Dist. LEXIS 27051 at *24; *see also MPT, Inc. v. Marathon Labels, Inc.*, No. 1:04-cv-2357,
 6 2007 U.S. Dist. LEXIS 3992, at *49 (N.D. Ohio Jan. 19, 2007 ("usurping this market by inducing or
 7 contributing to infringement will irreparably harm [plaintiff]"). P&G invented the plastic container for
 8 ground, roast coffee, actively created a market despite Kraft's negative advertising, and established a
 9 strong market position and customer goodwill. Kraft's usurping this market and goodwill by
 10 infringing P&G's patent would irreparably harm P&G for years to come. Bello Decl. ¶8. *See MPT*,
 11 2007 U.S. Dist. LEXIS 3992, at *49; *see also Basicomputer Corp. v. Scott*, 973 F.2d 507, 512 (6th Cir.
 12 1992) ("The loss of customer goodwill often amounts to irreparable injury because the damages
 13 flowing from such losses are difficult to compute."). Despite spending millions of dollars, P&G would
 14 be unable to enhance further the goodwill and reputation it has created through its patented packaging
 15 system. *See Pittway v. Black & Decker*, 667 F. Supp. 585, 592 (D. Ill. 1987) ("Black & Decker's
 16 FlashLiter products have preempted the opportunity for Pittway to enhance further the good will and
 17 reputation symbolized by its patented switch and First Alert Rechargeable Flashlights.")

18 **e. Irreparable Harm From Lost Sales Of Specialty Products**

19 A fifth category of irreparable harm from Kraft's infringing sales comes from lost sales of
 20 specialty products that P&G promotes using its patented container. P&G augments some of its Folgers
 21 coffee containers with a clear plastic lid that both holds and displays packets of gourmet coffee or
 22 other specialty products that have a higher profit margin than Folgers coffee. Bello Decl. ¶9. This
 23 project has been successful for P&G: in 2007 alone, P&G sold 2 million containers of Folgers coffee
 24 with samples of specialty products. Gemeiner Decl. ¶19. As a result, P&G plans to sell 4-5 million
 25 more units next year to promote gourmet coffee products and Dunkin Donuts brand coffee. *Id.*

26 Kraft's infringing sales will diminish sales of P&G's patented container and limit distribution
 27 of its specialty product samples, thereby diminishing sales of the specialty products. Bello Decl. ¶10.
 28

But, as a matter of patent law, P&G cannot recover damages based on these diminished sales because P&G's specialty products are unpatented and do not share a functional relationship with the Folgers coffee sold in the patented containers. *See, e.g., Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1549-51 (Fed. Cir. 1995) (*en banc*) (limiting recovery for unpatented goods to those with a functional relationship to patented goods with which they are sold). As the Federal Circuit recently made clear in an *en banc* opinion, the Court cannot enhance damages to cover this kind of additional sales, but only to compensate for willful infringement. *In re Seagate Tech.*, No. 830, 2007 U.S. App. LEXIS 19768, at *12 (Fed. Cir. Aug. 20, 2007) ("an award of enhanced damages requires a showing of willful infringement"). P&G's lost sales of unpatented specialty products—stemming from its lost opportunities to promote those higher-profit products—is a harm for which P&G has no adequate legal remedy.

f. Irreparable Harm From Kraft's Trading On P&G's Investment

A sixth category of irreparable harm to P&G is the fact that Kraft is unfairly reaping the benefit of P&G's substantial investment in developing the patented plastic container for ground, roast coffee and the market for coffee in that container. Bello Decl. ¶12. *See Sanofi, S.A. v. Med-Tech Veterinarian Prods., Inc.*, No. 83-2198, 1983 U.S. Dist. LEXIS 13684, *20 (D. Kan. Sept. 16, 1983) ("[T]he invasion of the rights of [plaintiffs] to exploit their rights in the patent, and the taking advantage of the research and promotional activities performed by [plaintiff] before the expiration of the patent protection is sufficient irreparable harm."); *Oscar Mayer Foods Corp. v. Sara Lee Corp.*, 743 F. Supp. 1326, 1332 (W.D. Wis. 1990) (irreparable harm shown, in part, by plaintiff's large investment in marketing patented product). An award of damages for past infringement cannot adequately compensate P&G for subsidizing a competitor's use of technology that P&G spent years and millions of dollars to develop.

E. The Balance of The Hardships Favors Granting An Injunction.

The balance of the hardships to the parties weighs heavily in favor of enjoining Kraft's infringing sales. When a defendant makes a calculated risk to launch a product that infringes a patent, any harm that it suffers from being enjoined does not weigh against the granting of a preliminary

injunction. *See Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1383 (Fed. Cir. 2006) (balance of hardships weighed in favor of granting preliminary injunction because defendant's "harms were 'almost entirely preventable' and were the result of its own calculated risk to launch its product" before conclusion of litigation regarding validity of patent); *Smith Int'l Inc. v. Hughes Tool Co.*, 718 F.2d 1573, 1581 (Fed. Cir. 1983) (holding that balance of hardships did not favor the accused infringer because it "knew of the [plaintiff's] patents when it design[ed] the [accused product] and took a calculated risk that it might infringe those patents"); *A.K. Stamping Co. v. Instrument Specialties Co.*, 106 F. Supp. 2d 627, 655-656 (D.N.J. 2000) ("Any hardship ISC suffers is a necessary, and predictable, consequence of its decision to sell the [accused product] following the issuance of the '632 patent"); *Jacobsen*, 1991 U.S. Dist. LEXIS 17787 at 59 ("Those who take calculated risks should be well aware that they thereby assume the risk of being put out of business by the issuance of the preliminary injunction.") This is but a reflection of well- and long-established law in other areas, such as real property, that courts will not consider defendant's hardship where defendant intentionally and knowingly encroached on plaintiff's property rights. *See, e.g., Keith v. Superior Ct.*, 26 Cal. App. 3d 521, 524-25, 103 Cal. Rptr. 314 (2d Dist. 1972) (vacating and remanding denial of preliminary injunction to stop encroachment that was not innocent).

Like the landowner that builds her building with knowledge that it encroaches onto her neighbor's land, Kraft introduced its plastic Maxwell House coffee container with full knowledge of P&G's patent and the USPTO's rejection of its invalidity challenges to the claims of P&G's patent. Kraft should not now be heard to complain about the hardship it would face from being forced to abandon its infringing plastic container and return to its metal can. Kraft can avoid causing irreparable harm to P&G and continue to make hundreds of millions of dollars, simply by continuing to sell coffee in its metal cans. *See Dippin' Dots v. Mosey*, No. 3:96-CV-1959-X, 1997 U.S. Dist. LEXIS 20896, *22 (N.D. Tex. Mar. 31, 1997) (granting preliminary injunction where accused infringer "entered into this market with full knowledge of the [patentee] and the . . . patent"); *Lubrizol Corp. v. Exxon Corp.*, 696 F. Supp. 302, 318 (N.D. Ohio 1988) (granting preliminary injunction where accused infringer had a non-infringing alternative available and proceeded with selling and developing new products with

1 knowledge of patentee's infringement allegations); *Rubbermaid Commercial Prods., Inc. v. Contico*
 2 *Int'l, Inc.*, 836 F. Supp. 1247, 1258 (W.D. Va. 1993) (granting preliminary injunction where accused
 3 infringer's "knowing entrance into a risky venture lays much of the harm at its own doorstep").

4 The balance of the hardships also weighs in favor of granting an injunction because every part
 5 of the overall product here—Kraft's 39-ounce plastic container—uses the benefits of the claimed
 6 inventions. This is not a case in which the claimed invention represents only a very small part of the
 7 overall product defendant sells. *See, e.g., Paice LLC v. Toyota Motor Corp.*, No. 2:04-CV-211-DF,
 8 2006 U.S. Dist. LEXIS 61600, at **15-16 (E.D. Tex. Aug. 16, 2006) (injunction denied in part
 9 because patented transmission was only a small part of Toyota's hybrid vehicle). The Maxwell House
 10 containers use the claims' regions of deflection to minimize denting, the claims' external ridge to keep
 11 coffee fresh using a top foil and lid, the claims' one-way valve to avoid excess pressure from damaging
 12 the containers, the claims' multi-layered plastic and use of certain plastic materials to maintain
 13 structural integrity and coffee freshness, and the claims' requirement of materials having certain tensile
 14 strength and top load capacity to ensure the container's structural integrity. Zeik Decl. ¶ 15.

15 The balance of hardships also tips in favor of P&G because it was the only provider of the
 16 patented plastic containers for ground, roast coffee before Kraft's introduction of its infringing
 17 product. P&G has invested significant time and effort in educating the marketplace on the benefits of
 18 the containers and in essentially "building the market," a task made more difficult by Kraft's
 19 advertisements criticizing plastic containers. Bello Decl. ¶12. P&G has been creating its market for
 20 the patented packaging since 2003. *Id.* In contrast, Kraft has only recently begun manufacturing and
 21 offering for sale its infringing products – another factor that helps tip the balance of hardships
 22 decidedly in P&G's favor. *See 3M Unitek Corp. v. Ormco Co.*, 96 F. Supp. 2d 1042, 1051-52 (C.D.
 23 Cal. 2000) ("[T]he fact that plaintiffs have invested more time and effort into marketing their patented
 24 invention also weighs in favor of plaintiffs.").

25 **F. The Public Interest Favors Enjoining Kraft's Infringement**

26 The public interest generally is best served by enforcing the patent laws and protecting patent
 27 rights. *Abbott Labs.*, 452 F.3d at 1348. This case is about containers for ground coffee, so concerns
 28

1 about public health and safety that could warrant denial of injunctive relief are not present. *See 3M*
 2 *Innovative Props. Co. v. Avery Dennison Corp.*, No. 01-1781 (JRT/FLN), 2006 U.S. Dist. LEXIS
 3 70263, at *6 (D. Minn. Sept. 25, 2006). Although the public has an interest in competition in the
 4 coffee market, that interest is not implicated because Kraft would remain free to market its Maxwell
 5 House ground coffee in the metal cans it used before switching to the infringing plastic containers. *See*
 6 *MGM Well Servs., Inc. v. Mega Lift Sys., LLC*, No. H-05-1634, 2007 U.S. Dist. LEXIS 30536 at *49
 7 (S.D. Tex. Apr. 25, 2007) (finding, in a permanent injunction, that public interest in competition would
 8 not be affected where defendant would remain free to market a non-infringing product).

9 **V. CONCLUSION**

10 This Court should enjoin Kraft from making, using, selling, offering to sell and importing its
 11 Maxwell House coffee in the infringing plastic 39-ounce container, any other size of that infringing
 12 container, or any other container not more than colorably different from that infringing container.

13 DATED: *September 19, 2007*

14 Respectfully submitted,

15 By 

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

PROCTER & GAMBLE CO.,

Plaintiff,

v.

KRAFT FOODS GLOBAL, INC.,

Defendant.

No. C 07-4413 PJH

**ORDER GRANTING MOTION
TO STAY**

Defendant's motion to stay the action came on for hearing before this court on October 3, 2007. Plaintiff, Procter & Gamble Co. ("plaintiff"), appeared through its counsel, William C. Rooklidge. Defendant, Kraft Foods Global, Inc. ("defendant"), appeared through its counsel, Claude M. Stern. Having read the parties' papers and carefully considered their arguments and the relevant legal authority, and good cause appearing, the court hereby GRANTS defendant's motion to stay, for the reasons stated at the hearing, and summarized as follows.

1. Defendant's request for a stay pending the inter partes reexamination of the '418 patent is proper, given the nature of the inter partes reexamination proceedings involved. Unlike an ex parte reexamination, an inter partes reexamination provides for full participation by a third party at all stages of the reexamination proceedings. See 35 U.S.C. § 311 et seq. Inter partes reexamination proceedings differ from ex parte proceedings in two other critical respects: first, inter partes proceedings allow for appeals to the Patent Board of Appeals ("PBA"), and subsequently to the Federal Circuit, upon submission of the PTO's reexamination decision. See 35 U.S.C. § 315(b)(1). Second, inter partes proceedings impose estoppel restraints upon third-party requesters, which would prevent

1 the third party requester from later re-litigating the same issues that were raised, or could
2 have been raised, during the inter partes proceedings. See id. at § 315(c).

3 In view of these facts, there is a high likelihood here that final, binding results of the
4 reexamination proceedings at issue – which contemplate final decisions by both the PBA
5 and the Federal Circuit – would have a dramatic effect on the issues before the court. This
6 is particularly true if some or all of the claims at issue are ultimately found invalid, or
7 narrowed. Indeed, based on this same understanding of inter partes reexamination
8 proceedings, other courts have recognized that an inter partes reexamination “can have no
9 other effect but to streamline ongoing litigation,” and that “courts have an even more
10 compelling reason to grant a stay when an inter partes reexamination is proceeding with
11 the same parties...”. See, e.g., Echostar Techs. Corp. v. Tivo, Inc., 2006 WL 2501494, *3
12 (E.D. Tex. July 14, 2006); Anascape, Ltd. v. Microsoft Corp., 475 F. Supp. 2d 612, 615,
13 617 (E.D. Tex. 2007); Middleton, Inc., v. Minn. Mining & Mfg. Co., 2004 WL 1968669 (S.D.
14 Iowa Aug. 24, 2004).

15 So here. Moreover, in addition to the efficiency and streamlining of issues that
16 would result from a stay, the court also notes that the pending litigation is at its earliest
17 stages, thereby reducing the prejudice that any party would suffer from a stay. As such,
18 and for all the foregoing reasons, defendant’s motion for a stay is GRANTED.

19 2. In granting defendant’s motion for a stay, the court rejects plaintiff’s
20 contention that 35 U.S.C. § 318 limits the right to request a stay to the patent owner alone.
21 Although true that § 318 does not expressly provide for an automatic stay of parallel district
22 court proceedings, the statute in no way impacts the inherent powers of the court to control
23 the litigation before it, and to grant a stay in the interests of justice when so required. See
24 also Middleton, 2004 WL 1968669 at * 2 (disregarding similar objections based on 35
25 U.S.C. § 318 in view of the court’s “inherent discretionary power to issue a stay”).

26 3. In view of the court’s grant of a stay, plaintiff’s pending motion for preliminary
27 injunction is moot. The court accordingly VACATES the current hearing date of October
28

24, 2007, and all corresponding briefing deadlines.

The stay ordered herein applies to all aspects of litigation, including discovery. The parties are instructed, however, to submit status reports to the court every 6 months, apprising the court of the status of the pending reexamination proceedings. Upon final exhaustion of all appeals in the pending reexamination proceedings, the parties shall jointly submit to the court, within one week, a letter indicating that all appeals have been exhausted, and requesting a further case management conference as soon as possible.

IT IS SO ORDERED.

Dated: October 11, 2007



PHYLLIS J. HAMILTON
United States District Judge



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ALEXANDRIA, VA 22314

**Transmittal of Communication to Third Party Requester
Inter Partes Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,219.

PATENT NUMBER 7,169,418.

TECHNOLOGY CENTER 3999.

ART UNIT 3991.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

ACTION CLOSING PROSECUTION (37 CFR 1.949)	Control No.	Patent Under Reexamination	
	95/000,219	7169418	
	Examiner	Art Unit	
	Jerry D. Johnson	3991	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address. —

Responsive to the communication(s) filed by:

Patent Owner on _____

Third Party(ies) on _____

Patent owner may once file a submission under 37 CFR 1.951(a) within 1 month(s) from the mailing date of this Office action. Where a submission is filed, third party requester may file responsive comments under 37 CFR 1.951(b) within 30-days (not extendable- 35 U.S.C. § 314(b)(2)) from the date of service of the initial submission on the requester. **Appeal cannot be taken from this action.** Appeal can only be taken from a Right of Appeal Notice under 37 CFR 1.953.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

PART II. SUMMARY OF ACTION:

- 1a. ☒ Claims 1-55 are subject to reexamination.
- 1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been canceled.
3. ☒ Claims 1-55 are confirmed. [Unamended patent claims]
4. ☐ Claims _____ are patentable. [Amended or new claims]
5. ☐ Claims _____ are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No _____
10. ☐ Other _____

Application/Control Number: 95/000,219
Art Unit: 3991

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REEXAMINATION

Decision Granting Inter Parte Reexamination

A Request pursuant to 37 CFR 1.913 for inter partes reexamination of claims 1-55 of U.S. Patent 7,169,418 was filed March 8, 2007 by the Third Party. An Order granting inter partes reexamination of claims 1-55 of U.S. Patent 7,169,418 accompanies the instant Action Closing Prosecution.

Art Cited by Requestor

The request relies on the following references:

New Applied References (Not cited in the Prosecution)

Melrose	U.S. Patent No. 6,763,969
Newcomb	U.S. Patent No. 3,082,904
Lane	U.S. Patent No. 6,837,390
Goglio	U.S. Patent No. 5,515,994 (hereafter "Goglio '994").

Old Applied References (Cited in the Prosecution)

Hargraves	U.S. Patent No. 4,966,780
Vidkjaer	U.S. Patent No. 6,733,803
Goglio	U.S. Patent 5,285,954 (hereafter "Goglio '954").
Bruke	U.S. Patent 3,944,127
Haas	U.S. Patent 5,085,034
Ota	U.S. Patent 4,890,752

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Art Unit: 3991

The Encyclopedia of Polymer Science and Technology, Volume 6, 1967 (hereafter "Encyclopedia").

Marks' Standard Handbook for Mechanical Engineers, 10th Edition, 1996 (hereafter "Marks").

Background References

Alberghini U.S. Patent No. 5,060,453

Darr U.S. Patent No. 5,960,244

Lown U.S. Patent No. D389,067

Weaver U.S. Patent No. 5,261,544

Platte U.S. Patent No. 3,708,082

"Main coffee packaging concern: freshness", Tea & Coffee Trade Journal, Author: Fader, Liz, 8/1/1989.

"Unique venting keeps coffee fresh", Packaging World Magazine, October 1996, p. 10.

"New container lets you wake up and smell the 'fresher' coffee", Food & Drug Packaging, Stagnito Communications, 11/1/1996.

I. The request indicates that the Requestor proposes the following rejections:

Claims 1, 8-10, 14-15, 19, 22-23, 26, 31-32, 33-35, 37-43, 44-49 and 50-55 based on Melrose in view of Goglio '994.

Claims 2-7, 11-13, 20-21 and 36 based on Melrose in view of Goglio '994, and further in view of Vidkjaer.

Claims 3-4 based on Melrose in view of Goglio '994, and further in view of Bruke.

Claims 9, 11-13, 20-21 and 33-36 based on Melrose in view of Goglio '994, and further in view of Haas.

Claims 9, 20-21 and 33-36 based on Melrose in view of Goglio '994, and further in view of Encyclopedia.

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Claims 16-18 based on Melrose in view of Goglio '994, and further in view of Goglio '954.

Claim 18 based on Melrose in view of Goglio '994, and further in view of Goglio '954 and Encyclopedia.

Claims 24-25, 27 and 29-30 based on Melrose in view of Goglio '994, and further in view of Hargraves.

Claim 28 based on Melrose in view of Goglio '994, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Melrose in view of Goglio '994. For the reasons as set forth below, the above proposed rejections based on Melrose in view of Goglio '994, considered together, or in view of the additionally cited art are **not adopted**.

Melrose teaches a hot-fillable, slender, blow-molded plastic bottle for use in containing hot-filled beverages comprising a blow-molded plastic container having a neck with an based on Melrose in view of Goglio '994, considered together, or in view of the additionally cited art upstanding threaded finish, a close-ended base, and a tubular sidewall located between the base and the neck. The sidewall includes, in an alternating pattern, a plurality of circumferentially-spaced, vertically-elongated columns and a plurality of circumferentially-spaced substantially smooth-surfaced panels (abstract; column 2, lines 33-40). Each of the panels flexes outwardly to expand the volume of the container during hot-filling, and each of the panels flexes inwardly in response to a reduction in internal volume when the container is capped and permitted to cool. The inward deflection of the panels interactively increases the horizontal cross-sectional convexity of each column. The vertical straightening of each column and the lateral pinching of each column combine to structurally strengthen the container (column 2, lines 51-60).

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Goglio '994 teaches a valve for aromatic products, or products that develop fragrant gases, particularly powder-like products such as coffee and the like, packaged in air-tight containers (column 1, lines 8-11).

In the request for reexamination, it is argued that it would be obvious to use the container of Melrose for coffee, and as Goglio '994 explicitly teaches the use of the described top closure of Goglio '994 to package ground coffee, it would have been obvious to use the top closure of Goglio '994 on the package of Melrose (Request, page 14). However, one having ordinary skill in the art would not have used the top closure of Goglio '994 on the container of Melrose because the container of Melrose is designed to flex inwardly in response to a reduction in internal volume which adds structural strength to the container whereas the top closure of Goglio '994 functions to relieve increased pressure within a container, i.e., the exact opposite in which the container of Melrose functions. It would not have been obvious to use the container of Melrose to package ground coffee for the same reason.

II. The request indicates that the Requestor proposes the following rejections:

Claims 1-3, 8-10, 14-15, 19-23, 26, 31-32, 33-35, 37-43, 44-49 and 50-55 based on Newcomb in view of Melrose.

Claims 2-7, 11-13, 20-21 and 36 based on Newcomb in view of Melrose, and further in view of Vidkjaer.

Claims 3-4 based on Newcomb in view of Melrose, and further in view of Bruke.

Claims 9, 11-13, 20-21 and 33-36 based on Newcomb in view of Melrose, and further in view of Haas.

Claims 9, 20-21 and 33-36 based on Newcomb in view of Melrose, and further in view of Encyclopedia.

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Claims 16-18 based on Newcomb in view of Melrose, and further in view of Goglio '954.

Claim 18 based on Newcomb in view of Melrose, and further in view of Goglio '954 and Encyclopedia.

Claims 24-25, 27 and 29-30 based on Newcomb in view of Melrose, and further in view of Hargraves.

Claim 28 based on Newcomb in view of Melrose, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Newcomb in view of Melrose. For the reasons as set forth below, the above proposed rejections based on Newcomb in view of Melrose, considered together, or in view of the additionally cited art are not adopted.

Newcomb teaches a pressure-vented container having an easy opening lid including a vent having a normally closed position and a venting position. A tamperproof locking ring for the container cap also functions to maintain the vent in its normally closed position until pressure within the container overcomes the restrictive forces of the locking ring (column 1, lines 55-61).

Melrose teaches a hot-fillable, slender, blow-molded plastic bottle for use in containing hot-filled beverages comprising a blow-molded plastic container having a neck with an upstanding threaded finish, a close-ended base, and a tubular sidewall located between the base and the neck. The sidewall includes, in an alternating pattern, a plurality of circumferentially-spaced, vertically-elongated columns and a plurality of circumferentially-spaced substantially smooth-surfaced panels (abstract; column 2, lines 33-40). Each of the panels flexes outwardly to expand the volume of the container during hot-filling, and each of the panels flexes inwardly in response to a reduction in internal volume when the container is capped and permitted to cool.

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The inward deflection of the panels interactively increases the horizontal cross-sectional convexity of each column. The vertical straightening of each column and the lateral pinching of each column combine to structurally strengthen the container (column 2, lines 51-60).

In the request for reexamination, it is argued that it would be obvious to include in the Newcomb container a region of deflection to accommodate the pressure changes as well known to be desired in the container art to prevent buckling or the like and a handle for ease of handling particularly for a larger container both as taught by Melrose (Request, pages 21-22). However, one having ordinary skill in the art would not have included a region of deflection as taught by Melrose in a container as taught by Newcomb because Melrose teaches that the region of deflection is designed to flex inwardly in response to a reduction in internal volume which adds structural strength to the container whereas the container of Newcomb includes a valve which functions to relieve increased pressure within the container, i.e., the exact opposite in which the container of Melrose functions.

III. The request indicates that the Requestor proposes the following rejections:

Claims 1, 8-10, 14-15, 19-23, 26, 31-32, 33-35, 37-43, 44-49 and 50-55 based on Lane in view of Goglio '994.

Claims 2-7, 11-13 and 36 based on Lane in view of Goglio '994, and further in view of Vidkjaer.

Claims 3-4 based on Lane in view of Goglio '994, and further in view of Bruke.

Claims 9, 11-13, 20-21 and 33-36 based on Lane in view of Goglio '994, and further in view of Haas.

Claims 9, 20-21 and 33-36 based on Lane in view of Goglio '994, and further in view of Encyclopedia.

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Claims 16-18 based on Lane in view of Goglio '994, and further in view of Goglio '954.

Claim 18 based on Lane in view of Goglio '994, and further in view of Goglio '954 and Encyclopedia.

Claims 24-25, 27 and 29-30 based on Lane in view of Goglio '994, and further in view of Hargraves.

Claim 28 based on Lane in view of Goglio '994, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Lane in view of Goglio '994. For the reasons as set forth below, the above proposed rejections based on Lane in view of Goglio '994, considered together, or in view of the additionally cited art are **not** adopted.

Lane teaches a hot-fillable, blow molded plastic container suitable for receiving a product which is initially filled in a hot state, the container subsequently being sealed so that cooling of the product creates a reduced volume of product and a reduced pressure within the container (column 2, lines 43-48). The front and rear panels of the container controllably accommodate the pressure reduction by being capable of pulling inward, under the influence of the reduced pressure (column 5, lines 55-59).

Goglio '994 teaches a valve for aromatic products, or products that develop fragrant gases, particularly powder-like products such as coffee and the like, packaged in air-tight containers (column 1, lines 8-11).

In the request for reexamination, it is argued that it would be obvious to use the container of Lane for coffee, and as Goglio '994 explicitly teaches use of the described top closure to package ground coffee, it would have been obvious to use the top closure of Goglio '994 on the

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package of Lane (Request, page 29). However, one having ordinary skill in the art would not have used the top closure of Goglio '994 on the container of Lane because the container of Lane is designed to flex inwardly in response to a reduction in pressure whereas the top closure of Goglio '994 functions to relieve increased pressure within a container, i.e., the exact opposite in which the container of Lane functions. It would not have been obvious to use the container of Lane to package ground coffee for the same reason.

IV. The request indicates that the Requestor proposes the following rejections:

Claims 1, 8-10, 14, 19, 22-27, 30, 33-35, 37-39, 41-43, 44-46, 48-49, 50-52 and 54-55 based on Hargraves in view of Goglio '994.

Claims 2-7, 11-13, 20-21, 29, 31-32 and 36 based on Hargraves in view of Goglio '994, and further in view of Vidkjaer.

Claims 33-36 based on Hargraves in view of Goglio '994, and further in view of Haas.

Claims 33-36 based on Hargraves in view of Goglio '994, and further in view of Encyclopedia.

Claims 15, 40, 47 and 53 based on Hargraves in view of Goglio '994, and further in view of Melrose.

Claim 16-18 and 28 based on Hargraves in view of Goglio '994, and further in view of Goglio '954.

Claims 1, 8, 10, 14-115, 19, 22-27, 30, 37-43, 44-49 and 50-55 based on Hargraves in view of Goglio '994, and further in view of Ota.

Claims 2, 5-7, 29 and 31-32 based on Hargraves in view of Goglio '994, and further in view of Ota and Vidkjaer.

Claims 3-4 based on Hargraves in view of Goglio '994, and further in view of Ota and Bruke.

Claims 9, 11-13 and 20-21 based on Hargraves in view of Goglio '994, and further in view of Ota and Haas.

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Claims 9 and 20-21 based on Hargraves in view of Goglio '994, and further in view of Ota and Encyclopedia.

Claims 16-17 and 28 based on Hargraves in view of Goglio '994, and further in view of Ota and Goglio '954.

Claim 18 based on Hargraves in view of Goglio '994, and further in view of Ota, Goglio '954 and Encyclopedia.

Each of the above proposed rejections relies upon at least the combination of Hargraves in view of Goglio '994. For the reasons as set forth below, the above proposed rejections based on Hargraves in view of Goglio '994, considered together, or in view of the additionally cited art are not adopted.

Under the heading "BACKGROUND ART", Hargraves teaches

[i]f coffee is packaged immediately after roasting and grinding without substantial off gassing, industry experience has demonstrated that the pressure of the carbon dioxide and other gases liberated from the coffee may cause serious bulging and even rupture of substantially gas-impervious bags, canisters or other containers used in the packaging (column 3, lines 14-20).

One approach to solving this problem has been to employ mechanical gas escape valves intended to relieve the build up of pressure from within the flexible container while preventing the entry of atmospheric air into the package. Representative prior art escape valves for use on flexible packages are disclosed in U.S. Pat. Nos. 3,595,467 issued to Goglio on July 27, 1971; 3,799,427 issued to Goglio on mar. 26, 1974; and 4,420,015 issued to Blaser on Dec. 13, 1983. However, these valves, typically increase the cost of the flexible package utilized to house the roast and ground coffee. In addition, they do not always function in their intended manner (Column 3, lines 45-57).

Hargraves teaches packaging for roasted and ground coffee which is to be packaged as quickly as is feasible after roasting, i.e., without undergoing substantial off gassing. The packaging preferably comprises a semi-rigid, substantially gas-impervious container capable of withstanding the pressures generated by the release of carbon dioxide and other gases from the

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fresh roasted coffee in the container. The semi-rigid container is preferably comprised of plastic and predetermined portions of the container are preferably capable of undergoing limited deformation (column 5, lines 53-64). Hargraves teaches that the improved aroma retention and product quality exhibited by packages of roasted and ground coffee of the invention is due not only to reduced oxidation of the material both prior to and after packaging, but also to the retention of many of the volatile aromatic constituents within the coffee product due to the presence of the self-generated pressure within the container after the packaging operation has been completed (column 6, lines 52-61).

Column 22, line 64 to column 23, line 1 of Hargraves teaches

[c]onversely, flexible packages employing one-way vent valves do not preserve the coffee volatiles within the package, i.e., one-way vent valves allow gas and volatiles to escape into the atmosphere to prevent ballooning of the package.

Goglio '994 teaches a valve for aromatic products, or products that develop fragrant gases, particularly powder-like products such as coffee and the like, packaged in air-tight containers (column 1, lines 8-11).

In the request for reexamination, it is argued "thus, as the container of Hargraves is used for coffee, it would be obvious to use a top closure like that of Goglio in combination with Hargraves especially if a larger container with a scoopable top opening was desired". (Request, page 37).

During the prosecution of the application which became the 7,169,418 patent, Hargraves was cited against the patent application claims. (Office Action mailed August 24, 2004). In response, applicants amendment the claims to include the limitation "wherein said closure has a one-way valve disposed thereon" and argued "that because Hargraves states that such valves are

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costly and often inoperable, Hargraves teaches away from the present invention.” (Remarks filed December 28, 2004, pages 9 and 14). In response to the December 28, 2004 amendment and arguments the examiner stated

Applicant's arguments, see Amendment filed 28 December 2004, with respect to the rejection of the claims under Hargraves, US patent number 4,966,780 have been fully considered and are persuasive since it is correct that Hargraves does not disclose and does teach away from a one way valve. (Office Action mailed June 15, 2005, page 8).

Accordingly, it would not have been obvious to one having ordinary skill in the art at the time the invention was made to use a top closure like that of Goglio in combination with Hargraves.

V. The request indicates that the Requestor proposes the following rejections:

Claims 1-15, 19-21, 26 and 31-32 based on Vidkjaer in view of Melrose.

Claims 3-4 based on Vidkjaer in view of Melrose, and further in view of Bruke.

Claims 11-13 and 20-21 based on Vidkjaer in view of Melrose, and further in view of Haas.

Claims 20-21 based on Vidkjaer in view of Melrose, and further in view of Encyclopedia.

Claims 16-18 based on Newcomb in view of Vidkjaer, and further in view of Goglio '954.

Claim 18 based on Vidkjaer in view of Melrose, and further in view of Goglio '954 and Encyclopedia.

Claims 22-25, 27, 29-30, 33-36, 37-43, 44-49 and 50-55 based on Vidkjaer in view of Melrose, and further in view of Hargraves.

Claim 28 based on Vidkjaer in view of Melrose, and further in view of Hargraves and Goglio '954.

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Each of the above proposed rejections relies upon at least the combination of Vidkjaer in view of Melrose. For the reasons as set forth below, the above proposed rejections based on Vidkjaer in view of Melrose, considered together, or in view of the additionally cited art **are not** adopted.

Vidkjaer teaches the combination of a dough product based on living yeast which generates gas over time, a closed packaging system for containing said dough product, the packaging system comprising a housing of a material which is essentially impervious to oxygen, valve means operatively associated with the housing for allowing exit of gas from the housing when the gas pressure exceeds a certain minimum value and which closes when said gas pressure drops below the minimum value to prevent the entry of oxygen into the housing and a substantially oxygen-free atmosphere surrounding the dough (column 1, lines 42-52). The presence on the packaging of the one-way valve will allow carbon dioxide to escape from said packaging, however, so that only a small over pressure will build up internally. The overall quality of the dough is improved thanks to the release of the extra gas and other excess volatile compounds (column 2, lines 5-10). The release of carbon dioxide avoids any swelling of the assembly and its explosion. The valve operates as soon as the inside pressure reaches between 3 to 7 mbar above the atmospheric pressure (column 4, line 66 to column 5, line 4).

Melrose teaches a hot-fillable, slender, blow-molded plastic bottle for use in containing hot-filled beverages comprising a blow-molded plastic container having a neck with an upstanding threaded finish, a close-ended base, and a tubular sidewall located between the base and the neck. The sidewall includes, in an alternating pattern, a plurality of circumferentially-spaced, vertically-elongated columns and a plurality of circumferentially-spaced substantially

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smooth-surfaced panels (abstract; column 2, lines 33-40). Each of the panels flexes outwardly to expand the volume of the container during hot-filling, and each of the panels flexes inwardly in response to a reduction in internal volume when the container is capped and permitted to cool.

The inward deflection of the panels interactively increases the horizontal cross-sectional convexity of each column. The vertical straightening of each column and the lateral pinching of each column combine to structurally strengthen the container (column 2, lines 51-60).

Preferably each column is provided with a plurality of vertically aligned protrusions providing better grip-ability (column 4, lines 64-76; column 5, lines 25-39).

In the request for reexamination, it is argued "Melrose, as noted above has a handle (column 4, lines 64-67 and column 5, lines 25-39). Thus, as it would be obvious to include a handle as taught by Melrose on the Vidkjaer container, especially if the container were made larger and more vertical to hold more coffee."

During the prosecution of the application which became the 7,169,418 patent, Vidkjaer was cited against the patent application claims. (Office Action mailed June 15, 2005). In response, applicants amended the claims to include the limitation "a handle disposed on said body" and argued "Vidkjaer fails to teach a container having a handle disposed on the body thereof." (Remarks filed October 15, 2005, pages 12 and 14). In response to the October 15, 2005 amendment and arguments the examiner cited Ota and argued

Vidkjaer does not disclose a handle disposed on the body of the container. Ota teaches a plastic container wherein said body has a handle disposed thereon (see Figures 1-5, Column 3, lines 31-38 and 13-16), the handle being integral with said body (see column 2, line 35-56 Figures 1-5) and wherein the handle is substantially parallel to said longitudinal axis of said container (see Ota Figures 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to put a handle as taught by Ota on the container as disclosed by Vidkjaer, since both are directed to rigid containers for food and the handle of Ota

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provides aid in holding the container without deforming the container (see Ota, Column 1, lines 36-68 and Column 2, lines 1-2). (Final Rejection mailed November 29, 2005, page 3).

Applicants responded by filing a request for continued examination and amending the claims to include the limitation "wherein said body comprises at least one region of deflection disposed thereon" and argued

Applicants respectfully assert that the Vidkjaer reference fails to teach all of the claims limitations. Vidkjaer, alone or in combination with the other cited references, fails to teach the present containers having regions of deflection, as amended herein. On page 3 of the Office Action the Examiner relies on reference number (3) of Vidkjaer to teach regions of deflection. The Examiner states that "the ribs on the container are for reinforcement and it is interpreted that they would be responsive to an internal or external force on the container." Page 3, paper No. 2. Thus, the Examiner has concluded that the reinforcement ribs in Vidkjaer can serve as both a reinforcement means and a region of deflection.

It is respectfully assert that this is an improper conclusion. The present invention can comprise both ribs and regions of deflection, however, as described herein below, each serves a clearly distinct function. As taught presently, regions of deflection function "to isolate deflection of the container due to either pressures internal to the container or pressures due to forces exerted upon the container." Specification, page 10, lines 15-17. Incorporation of the regions of deflection is believed to allow flexion within the body portion of the container such that the body portion can deform uniformly without catastrophic failure or other defects, such as denting. Specification, page 11, lines 1-4. Moreover, the regions of deflection are designed to have *less resistance to deflection* than the regions of the container proximate to the regions of deflection (emphasis added). Specification, page 11, lines 18-20. In this way, any movements of the container due to changes in pressure preferentially impact the regions of deflection rather than the remainder of the container. Id. Lines 20-21. Moreover, the ribs of the present invention are designed to provide structural stability and further restrict movement of the container to the regions of deflection. Specification, page 11, line 27 through page 12, line 14.

In view of the above, it is respectfully asserted that the assumption that the reinforcement ribs of Vidkjaer can both reinforce the container (like the present ribs) and allow flexibility (like the present regions of deflection) is incorrect. The ribs of Vidkjaer cannot provide reinforcement *and* concurrently be less resistant to deflection. Thus, Applicants respectfully assert that it is improper to assume that the ribs of Vidkjaer can serve both functions simultaneously. Therefore,

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Vidkjaer fails to teach the present regions of deflection. The additional cited references do nothing to remedy this deficiency of Vidkjaer. Thus, it is respectfully asserted that Vidkjaer, either alone or in combination, fails to teach all of the claim limitations and, therefore, the Office Action fails to establish a prima facie case of obviousness. (Request for continued examination filed February 28, 2006; pages 9 and 11-12).

In response, the examiner issued a non-final Office Action which maintained the rejection of Vidkjaer in view of Ota for the reasons set forth in the previous Office Action and argued "the claim language only requires a 'region of deflection' and has no flexibility requirement". (Office Action mailed April 4, 2006; page 3).

Applicants responded by amending the claims to include the limitation "said region of deflection having less resistance to flexing than the body of said container proximate to said region of deflection" and argued

Applicants' position is that none of the cited documents suggests the "regions of deflection" employed in the present containers. In response, the Examiner (Office Action, page 3) surmises that the "region of deflection" could encompass reinforcing "ribs", since no flexibility requirement is given.

In response to that position, the claims have now been amended to recite that the region of deflection has less resistance to flexing than [sic] does the proximate region of the container, i.e., is more flexible. This, of course, is the exact opposite of a reinforcing rib. (Remarks filed June 28, 2006; page 14).

A Notice of Allowance was mailed by the Office on September 19, 2006. The Notice of Allowance included an Examiner's Amendment which amended the independent claims to include the limitation "allows flexion and thereby has". Accordingly, each of the 7,169,418 patent claims include the limitation

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection.

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The 7,169,418 patent claims were thus distinguished over the teachings of Vidkjaer which does not teach a region of deflection which allows flexion.

In the request for reexamination, it is argued

[w]ith respect to regions of deflection, the panels located between the support ribs of the Old Vidkjaer container are regions of deflection that allow flexion and have less resistance to flexing than the ribs, which are part of the body of the container proximate to the panels. Old Vidkjaer describes the ribs (3) as "reinforcement ribs (3), permitting therefore to reduce further the thickness of the used materials." (column 4, lines 58-60). One of ordinary skill in the art would understand that these ribs reinforce the structure by having more resistance to flexing than the proximate panels, and that the panels are therefore regions of deflection. (Request, page 46).

Requester's arguments to the contrary notwithstanding, Vidkjaer does not "teach regions of deflection that allow flexion." Vidkjaer teaches that the valved package includes "a one-way valve (8) authorizing the carbon dioxide which can be formed during the storage to escape for avoiding any swelling of the assembly and its explosion. This valve operates as soon as the inside pressure reaches between 3 to 7 mbar above the atmospheric pressure." (column 4, line 66 to column 5, line 4; emphasis added). Accordingly, the package of Vidkjaer does not include regions of deflection that allow flexion. The mere fact that the package of Vidkjaer includes reinforcing ribs is not a teaching of, or for that matter, transform the regions adjacent to those ribs into "regions of deflection that allow flexion."

Conclusion

This is an ACTION CLOSING PROSECUTION (ACP).

1) Patent Owner may once file written comments limited to the issues raised in the reexamination proceeding and/or present a proposed amendment to the claims which amendment will be subject to the criteria of 37 CFR 1.116 as to whether it shall be entered and considered. Such comments and/or proposed amendments must be filed within a time period of 30 days or one month (whichever is longer) from the mailing date of this action. Where patent owner files

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comments and/or proposed amendment, the third party requester may once file comments responding to patent owner's submission within 30 days from the date of service of patent owner's submission on third party requester.

2) Appeal cannot be taken from this action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

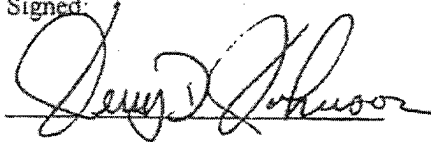
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Art Unit 3991



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CENTRAL REEXAMINATION UNIT

**Transmittal of Communication to Third Party Requester
Inter Partes Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,219.

PATENT NUMBER 7,169,418.

TECHNOLOGY CENTER 3999.

ART UNIT 3991.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.



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CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000,219	003/08/2007	7169418	

EXAMINER

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ART UNIT	PAPER
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01/14/08

INTER PARTES REEXAMINATION COMMUNICATION

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.

**Right of Appeal Notice
(37 CFR 1.953)**

Control No.

95/000,219

Examiner

Jerry D. Johnson

Patent Under Reexamination

7169418

Art Unit

3991

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on _____

Third Party(ies) on _____

Patent owner and/or third party requester(s) may file a notice of appeal with respect to any adverse decision with payment of the fee set forth in 37 CFR 41.20(b)(1) within **one-month or thirty-days (whichever is longer)**. See MPEP 2671. In addition, a party may file a notice of **cross** appeal and pay the 37 CFR 41.20(b)(1) fee **within fourteen days of service** of an opposing party's timely filed notice of appeal. See MPEP 2672.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

If no party timely files a notice of appeal, prosecution on the merits of this reexamination proceeding will be concluded, and the Director of the USPTO will proceed to issue and publish a certificate under 37 CFR 1.997 in accordance with this Office action.

The proposed amendment filed _____ ☐ will be entered ☐ will not be entered*

*Reasons for non-entry are given in the body of this notice.

- 1a. ☒ Claims 1-55 are subject to reexamination.
- 1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims].
4. ☒ Claims 1-55 are patentable. [Amended or new claims].
5. ☐ Claims _____ are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable. ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d) or (f). The certified copy has:
☐ been received. ☐ not been received. ☐ been filed in Application/Control No. _____.
10. ☐ Other _____

Attachments

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

Transmittal of Communication to Third Party Requester Inter Partes Reexamination	Control No.	Patent Under Reexamination	
	95/000,219	7169418	
	Examiner	Art Unit	
	Jerry D. Johnson	3991	

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Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

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BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.

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REEXAMINATION

Response to Action Closing Prosecution

An Action Closing Prosecution was mailed June 7, 2007. A Response by Patent Owner was not received. A Request for Admission of Declaration Pursuant to: Declaration Submitted Under Rule 116(e) *or in the alternative* Petition to the Director Under Rule 182/3 was filed October 31, 2007 by Third Party Requester. The petition was dismissed in a decision mailed December 18, 2007.

Art Cited by Requestor

The request relied on the following references:

New Applied References (Not cited in the Prosecution)

Melrose	U.S. Patent No. 6,763,969
Newcomb	U.S. Patent No. 3,082,904
Lane	U.S. Patent No. 6,837,390
Goglio	U.S. Patent No. 5,515,994 (hereafter "Goglio '994").

Old Applied References (Cited in the Prosecution)

Hargraves	U.S. Patent No. 4,966,780
Vidkjaer	U.S. Patent No. 6,733,803
Goglio	U.S. Patent 5,285,954 (hereafter "Goglio '954").
Bruke	U.S. Patent 3,944,127
Haas	U.S. Patent 5,085,034

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Ota U.S. Patent 4,890,752

The Encyclopedia of Polymer Science and Technology, Volume 6, 1967
(hereafter "Encyclopedia").

Marks' Standard Handbook for Mechanical Engineers, 10th Edition, 1996
(hereafter "Marks").

Background References

Alberghini U.S. Patent No. 5,060,453

Darr U.S. Patent No. 5,960,244

Lown U.S. Patent No. D389,067

Weaver U.S. Patent No. 5,261,544

Platte U.S. Patent No. 3,708,082

"Main coffee packaging concern: freshness", Tea & Coffee Trade Journal,
Author: Fader, Liz, 8/1/1989.

"Unique venting keeps coffee fresh", Packaging World Magazine, October 1996,
p. 10.

"New container lets you wake up and smell the 'fresher' coffee", Food & Drug
Packaging, Stagnito Communications, 11/1/1996.

Requester's Proposed Rejections

I. The request indicated that the Requestor proposed the following rejections:

Claims 1, 8-10, 14-15, 19, 22-23, 26, 31-32, 33-35, 37-43, 44-49 and 50-55 based
on Melrose in view of Goglio '994.

Claims 2-7, 11-13, 20-21 and 36 based on Melrose in view of Goglio '994, and
further in view of Vidkjaer.

Claims 3-4 based on Melrose in view of Goglio '994, and further in view of
Bruke.

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Claims 9, 11-13, 20-21 and 33-36 based on Melrose in view of Goglio '994, and further in view of Haas.

Claims 9, 20-21 and 33-36 based on Melrose in view of Goglio '994, and further in view of Encyclopedia.

Claims 16-18 based on Melrose in view of Goglio '994, and further in view of Goglio '954.

Claim 18 based on Melrose in view of Goglio '994, and further in view of Goglio '954 and Encyclopedia.

Claims 24-25, 27 and 29-30 based on Melrose in view of Goglio '994, and further in view of Hargraves.

Claim 28 based on Melrose in view of Goglio '994, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Melrose in view of Goglio '994. For the reasons as set forth below, the above proposed rejections based on Melrose in view of Goglio '994, considered together, or in view of the additionally cited art **are not adopted**.

Melrose teaches a hot-fillable, slender, blow-molded plastic bottle for use in containing hot-filled beverages comprising a blow-molded plastic container having a neck with an based on Melrose in view of Goglio '994, considered together, or in view of the additionally cited art upstanding threaded finish, a close-ended base, and a tubular sidewall located between the base and the neck. The sidewall includes, in an alternating pattern, a plurality of circumferentially-spaced, vertically-elongated columns and a plurality of circumferentially-spaced substantially smooth-surfaced panels (abstract; column 2, lines 33-40). Each of the panels flexes outwardly to expand the volume of the container during hot-filling, and each of the panels flexes inwardly in response to a

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reduction in internal volume when the container is capped and permitted to cool. The inward deflection of the panels interactively increases the horizontal cross-sectional convexity of each column. The vertical straightening of each column and the lateral pinching of each column combine to structurally strengthen the container (column 2, lines 51-60).

Goglio '994 teaches a valve for aromatic products, or products that develop fragrant gases, particularly powder-like products such as coffee and the like, packaged in air-tight containers (column 1, lines 8-11).

In the request for reexamination, it is argued that it would be obvious to use the container of Melrose for coffee, and as Goglio '994 explicitly teaches the use of the described top closure of Goglio '994 to package ground coffee, it would have been obvious to use the top closure of Goglio '994 on the package of Melrose (Request, page 14). However, one having ordinary skill in the art would not have used the top closure of Goglio '994 on the container of Melrose because the container of Melrose is designed to flex inwardly in response to a reduction in internal volume which adds structural strength to the container whereas the top closure of Goglio '994 functions to relieve increased pressure within a container, i.e., the exact opposite in which the container of Melrose functions. It would not have been obvious to use the container of Melrose to package ground coffee for the same reason.

II. The request indicated that the Requestor proposed the following rejections:

Claims 1-3, 8-10, 14-15, 19-23, 26, 31-32, 33-35, 37-43, 44-49 and 50-55 based on Newcomb in view of Melrose.

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Claims 2-7, 11-13, 20-21 and 36 based on Newcomb in view of Melrose, and further in view of Vidkjaer.

Claims 3-4 based on Newcomb in view of Melrose, and further in view of Bruke.

Claims 9, 11-13, 20-21 and 33-36 based on Newcomb in view of Melrose, and further in view of Haas.

Claims 9, 20-21 and 33-36 based on Newcomb in view of Melrose, and further in view of Encyclopedia.

Claims 16-18 based on Newcomb in view of Melrose, and further in view of Goglio '954.

Claim 18 based on Newcomb in view of Melrose, and further in view of Goglio '954 and Encyclopedia.

Claims 24-25, 27 and 29-30 based on Newcomb in view of Melrose, and further in view of Hargraves.

Claim 28 based on Newcomb in view of Melrose, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Newcomb in view of Melrose. For the reasons as set forth below, the above proposed rejections based on Newcomb in view of Melrose, considered together, or in view of the additionally cited art **are not adopted**.

Newcomb teaches a pressure-vented container having an easy opening lid including a vent having a normally closed position and a venting position. A tamperproof locking ring for the container cap also functions to maintain the vent in its normally closed position until pressure within the container overcomes the restrictive forces of the locking ring (column 1, lines 55-61).

Melrose teaches a hot-fillable, slender, blow-molded plastic bottle for use in containing hot-filled beverages comprising a blow-molded plastic container having a

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neck with an upstanding threaded finish, a close-ended base, and a tubular sidewall located between the base and the neck. The sidewall includes, in an alternating pattern, a plurality of circumferentially-spaced, vertically-elongated columns and a plurality of circumferentially-spaced substantially smooth-surfaced panels (abstract; column 2, lines 33-40). Each of the panels flexes outwardly to expand the volume of the container during hot-filling, and each of the panels flexes inwardly in response to a reduction in internal volume when the container is capped and permitted to cool. The inward deflection of the panels interactively increases the horizontal cross-sectional convexity of each column. The vertical straightening of each column and the lateral pinching of each column combine to structurally strengthen the container (column 2, lines 51-60).

In the request for reexamination, it is argued that it would be obvious to include in the Newcomb container a region of deflection to accommodate the pressure changes as well known to be desired in the container art to prevent buckling or the like and a handle for ease of handling particularly for a larger container both as taught by Melrose (Request, pages 21-22). However, one having ordinary skill in the art would not have included a region of deflection as taught by Melrose in a container as taught by Newcomb because Melrose teaches that the region of deflection is designed to flex inwardly in response to a reduction in internal volume which adds structural strength to the container whereas the container of Newcomb includes a valve which functions to relieve increased pressure within the container; i.e., the exact opposite in which the container of Melrose functions.

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III. The request indicated that the Requestor proposed the following rejections:

Claims 1, 8-10, 14-15, 19-23, 26, 31-32, 33-35, 37-43, 44-49 and 50-55 based on Lane in view of Goglio '994.

Claims 2-7, 11-13 and 36 based on Lane in view of Goglio '994, and further in view of Vidkjaer.

Claims 3-4 based on Lane in view of Goglio '994, and further in view of Bruke.

Claims 9, 11-13, 20-21 and 33-36 based on Lane in view of Goglio '994, and further in view of Haas.

Claims 9, 20-21 and 33-36 based on Lane in view of Goglio '994, and further in view of Encyclopedia.

Claims 16-18 based on Lane in view of Goglio '994, and further in view of Goglio '954.

Claim 18 based on Lane in view of Goglio '994, and further in view of Goglio '954 and Encyclopedia.

Claims 24-25, 27 and 29-30 based on Lane in view of Goglio '994, and further in view of Hargraves.

Claim 28 based on Lane in view of Goglio '994, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Lane in view of Goglio '994. For the reasons as set forth below, the above proposed rejections based on Lane in view of Goglio '994, considered together, or in view of the additionally cited art **are not adopted**.

Lane teaches a hot-fillable, blow molded plastic container suitable for receiving a product which is initially filled in a hot state, the container subsequently being sealed so that cooling of the product creates a reduced volume of product and a reduced pressure within the container (column 2, lines 43-48). The front and rear panels of the container

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controllably accommodate the pressure reduction by being capable of pulling inward, under the influence of the reduced pressure (column 5, lines 55-59).

Goglio '994 teaches a valve for aromatic products, or products that develop fragrant gases, particularly powder-like products such as coffee and the like, packaged in air-tight containers (column 1, lines 8-11).

In the request for reexamination, it is argued that it would be obvious to use the container of Lane for coffee, and as Goglio '994 explicitly teaches use of the described top closure to package ground coffee, it would have been obvious to use the top closure of Goglio '994 on the package of Lane (Request, page 29). However, one having ordinary skill in the art would not have used the top closure of Goglio '994 on the container of Lane because the container of Lane is designed to flex inwardly in response to a reduction in pressure whereas the top closure of Goglio '994 functions to relieve increased pressure within a container, i.e., the exact opposite in which the container of Lane functions. It would not have been obvious to use the container of Lane to package ground coffee for the same reason.

IV. The request indicated that the Requestor proposed the following rejections:

Claims 1, 8-10, 14, 19, 22-27, 30, 33-35, 37-39, 41-43, 44-46, 48-49, 50-52 and 54-55 based on Hargraves in view of Goglio '994.

Claims 2-7, 11-13, 20-21, 29, 31-32 and 36 based on Hargraves in view of Goglio '994, and further in view of Vidkjaer.

Claims 33-36 based on Hargraves in view of Goglio '994, and further in view of Haas.

Claims 33-36 based on Hargraves in view of Goglio '994, and further in view of Encyclopedia.

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Claims 15, 40, 47 and 53 based on Hargraves in view of Goglio '994, and further in view of Melrose.

Claim 16-18 and 28 based on Hargraves in view of Goglio '994, and further in view of Goglio '954.

Claims 1, 8, 10, 14-115, 19, 22-27, 30, 37-43, 44-49 and 50-55 based on Hargraves in view of Goglio '994, and further in view of Ota.

Claims 2, 5-7, 29 and 31-32 based on Hargraves in view of Goglio '994, and further in view of Ota and Vidkjaer.

Claims 3-4 based on Hargraves in view of Goglio '994, and further in view of Ota and Bruke.

Claims 9, 11-13 and 20-21 based on Hargraves in view of Goglio '994, and further in view of Ota and Haas.

Claims 9 and 20-21 based on Hargraves in view of Goglio '994, and further in view of Ota and Encyclopedia.

Claims 16-17 and 28 based on Hargraves in view of Goglio '994, and further in view of Ota and Goglio '954.

Claim 18 based on Hargraves in view of Goglio '994, and further in view of Ota, Goglio '954 and Encyclopedia.

Each of the above proposed rejections relies upon at least the combination of Hargraves in view of Goglio '994. For the reasons as set forth below, the above proposed rejections based on Hargraves in view of Goglio '994, considered together, or in view of the additionally cited art **are not adopted**.

Under the heading "BACKGROUND ART", Hargraves teaches

[i]f coffee is packaged immediately after roasting and grinding without substantial off gassing, industry experience has demonstrated that the pressure of the carbon dioxide and other gases liberated from the coffee may cause serious bulging and even rupture of substantially gas-impervious bags, canisters or other containers used in the packaging (column 3, lines 14-20).

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One approach to solving this problem has been to employ mechanical gas escape valves intended to relieve the build up of pressure from within the flexible container while preventing the entry of atmospheric air into the package. Representative prior art escape valves for use on flexible packages are disclosed in U.S. Pat. Nos. 3,595,467 issued to Goglio on July 27, 1971; 3,799,427 issued to Goglio on mar. 26, 1974; and 4,420,015 issued to Blaser on Dec. 13, 1983. However, these valves, typically increase the cost of the flexible package utilized to house the roast and ground coffee. In addition, they do not always function in their intended manner (Column 3, lines 45-57).

Hargraves teaches packaging for roasted and ground coffee which is to be packaged as quickly as is feasible after roasting, i.e., without undergoing substantial off gassing. The packaging preferably comprises a semi-rigid, substantially gas-impervious container capable of withstanding the pressures generated by the release of carbon dioxide and other gases from the fresh roasted coffee in the container. The semi-rigid container is preferably comprised of plastic and predetermined portions of the container are preferably capable of undergoing limited deformation (column 5, lines 53-64). Hargraves teaches that the improved aroma retention and product quality exhibited by packages of roasted and ground coffee of the invention is due not only to reduced oxidation of the material both prior to and after packaging, but also to the retention of many of the volatile aromatic constituents within the coffee product due to the presence of the self-generated pressure within the container after the packaging operation has been completed (column 6, lines 52-61).

Column 22, line 64 to column 23, line 1 of Hargraves teaches

[c]onversely, flexible packages employing one-way vent valves do not preserve the coffee volatiles within the package, i.e., one-way vent valves allow gas and volatiles to escape into the atmosphere to prevent ballooning of the package.

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Goglio '994 teaches a valve for aromatic products, or products that develop fragrant gases, particularly powder-like products such as coffee and the like, packaged in air-tight containers (column 1, lines 8-11).

In the request for reexamination, it is argued "thus, as the container of Hargraves is used for coffee, it would be obvious to use a top closure like that of Goglio in combination with Hargraves especially if a larger container with a scoopable top opening was desired". (Request, page 37).

During the prosecution of the application which became the 7,169,418 patent, Hargraves was cited against the patent application claims. (Office Action mailed August 24, 2004). In response, applicants amend the claims to include the limitation "wherein said closure has a one-way valve disposed thereon" and argued "that because Hargraves states that such valves are costly and often inoperable, Hargraves teaches away from the present invention." (Remarks filed December 28, 2004, pages 9 and 14). In response to the December 28, 2004 amendment and arguments the examiner stated

Applicant's arguments, see Amendment filed 28 December 2004, with respect to the rejection of the claims under Hargraves, US patent number 4,966,780 have been fully considered and are persuasive since it is correct that Hargraves does not disclose and does teach away from a one way valve. (Office Action mailed June 15, 2005, page 8).

Accordingly, it would not have been obvious to one having ordinary skill in the art at the time the invention was made to use a top closure like that of Goglio in combination with Hargraves.

V. The request indicated that the Requestor proposed the following rejections:

Claims 1-15, 19-21, 26 and 31-32 based on Vidkjaer in view of Melrose.

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Claims 3-4 based on Vidkjaer in view of Melrose, and further in view of Bruke.

Claims 11-13 and 20-21 based on Vidkjaer in view of Melrose, and further in view of Haas.

Claims 20-21 based on Vidkjaer in view of Melrose, and further in view of Encyclopedia.

Claims 16-18 based on Newcomb in view of Vidkjaer, and further in view of Goglio '954.

Claim 18 based on Vidkjaer in view of Melrose, and further in view of Goglio '954 and Encyclopedia.

Claims 22-25, 27, 29-30, 33-36, 37-43, 44-49 and 50-55 based on Vidkjaer in view of Melrose, and further in view of Hargraves.

Claim 28 based on Vidkjaer in view of Melrose, and further in view of Hargraves and Goglio '954.

Each of the above proposed rejections relies upon at least the combination of Vidkjaer in view of Melrose. For the reasons as set forth below, the above proposed rejections based on Vidkjaer in view of Melrose, considered together, or in view of the additionally cited art **are not adopted**.

Vidkjaer teaches the combination of a dough product based on living yeast which generates gas over time, a closed packaging system for containing said dough product, the packaging system comprising a housing of a material which is essentially impervious to oxygen, valve means operatively associated with the housing for allowing exit of gas from the housing when the gas pressure exceeds a certain minimum value and which closes when said gas pressure drops below the minimum value to prevent the entry of oxygen into the housing and a substantially oxygen-free atmosphere surrounding the dough (column 1, lines 42-52). The presence on the packaging of the one-way valve will

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allow carbon dioxide to escape from said packaging, however, so that only a small over pressure will build up internally. The overall quality of the dough is improved thanks to the release of the extra gas and other excess volatile compounds (column 2, lines 5-10). The release of carbon dioxide avoids any swelling of the assembly and its explosion. The valve operates as soon as the inside pressure reaches between 3 to 7 mbar above the atmospheric pressure (column 4, line 66 to column 5, line 4).

Melrose teaches a hot-fillable, slender, blow-molded plastic bottle for use in containing hot-filled beverages comprising a blow-molded plastic container having a neck with an upstanding threaded finish, a close-ended base, and a tubular sidewall located between the base and the neck. The sidewall includes, in an alternating pattern, a plurality of circumferentially-spaced, vertically-elongated columns and a plurality of circumferentially-spaced substantially smooth-surfaced panels (abstract; column 2, lines 33-40). Each of the panels flexes outwardly to expand the volume of the container during hot-filling, and each of the panels flexes inwardly in response to a reduction in internal volume when the container is capped and permitted to cool. The inward deflection of the panels interactively increases the horizontal cross-sectional convexity of each column. The vertical straightening of each column and the lateral pinching of each column combine to structurally strengthen the container (column 2, lines 51-60). Preferably each column is provided with a plurality of vertically aligned protrusions providing better grip-ability (column 4, lines 64-76; column 5, lines 25-39).

In the request for reexamination, it is argued "Melrose, as noted above has a handle (column 4, lines 64-67 and column 5, lines 25-39). Thus, as it would be obvious

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to include a handle as taught by Melrose on the Vidkjaer container, especially if the container were made larger and more vertical to hold more coffee.”

During the prosecution of the application which became the 7,169,418 patent, Vidkjaer was cited against the patent application claims. (Office Action mailed June 15, 2005). In response, applicants amended the claims to include the limitation “a handle disposed on said body” and argued “Vidkjaer fails to teach a container having a handle disposed on the body thereof.” (Remarks filed October 15, 2005, pages 12 and 14). In response to the October 15, 2005 amendment and arguments the examiner cited Ota and argued

Vidkjaer does not disclose a handle disposed on the body of the container. Ota teaches a plastic container wherein said body has a handle disposed thereon (see Figures 1-5, Column 3, lines 31-38 and 13-16), the handle being integral with said body (see column 2, line 35-56 Figures 1-5) and wherein the handle is substantially parallel to said longitudinal axis of said container (see Ota Figures 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to put a handle as taught by Ota on the container as disclosed by Vidkjaer, since both are directed to rigid containers for food and the handle of Ota provides aid in holding the container without deforming the container (see Ota, Column 1, lines 36-68 and Column 2, lines 1-2). (Final Rejection mailed November 29, 2005, page 3).

Applicants responded by filing a request for continued examination and amending the claims to include the limitation “wherein said body comprises at least one region of deflection disposed thereon” and argued

Applicants respectfully assert that the Vidkjaer reference fails to teach all of the claims limitations. Vidkjaer, alone or in combination with the other cited references, fails to teach the present containers having regions of deflection, as amended herein. On page 3 of the Office Action the Examiner relies on reference number (3) of Vidkjaer to teach regions of deflection. The Examiner states that “the ribs on the container are for reinforcement and it is interpreted that they would be responsive to an internal or external force on the container.” Page 3, paper No. 2. Thus,

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the Examiner has concluded that the reinforcement ribs in Vidkjaer can serve as both a reinforcement means and a region of deflection.

It is respectfully assert that this is an improper conclusion. The present invention can comprise both ribs and regions of deflection, however, as described herein below, each serves a clearly distinct function. As taught presently, regions of deflection function "to isolate deflection of the container due to either pressures internal to the container or pressures due to forces exerted upon the container." Specification, page 10, lines 15-17. Incorporation of the regions of deflection is believed to allow flexion within the body portion of the container such that the body portion can deform uniformly without catastrophic failure or other defects, such as denting. Specification, page 11, lines 1-4. Moreover, the regions of deflection are designed to have *less resistance to deflection* than the regions of the container proximate to the regions of deflection (emphasis added). Specification, page 11, lines 18-20. In this way, any movements of the container due to changes in pressure preferentially impact the regions of deflection rather than the remainder of the container. Id. Lines 20-21. Moreover, the ribs of the present invention are designed to provide structural stability and further restrict movement of the container to the regions of deflection. Specification, page 11, line 27 through page 12, line 14.

In view of the above, it is respectfully asserted that the assumption that the reinforcement ribs of Vidkjaer can both reinforce the container (like the present ribs) and allow flexibility (like the present regions of deflection) is incorrect. The ribs of Vidkjaer cannot provide reinforcement *and* concurrently be less resistant to deflection. Thus, Applicants respectfully assert that it is improper to assume that the ribs of Vidkjaer can serve both functions simultaneously. Therefore, Vidkjaer fails to teach the present regions of deflection. The additional cited references do nothing to remedy this deficiency of Vidkjaer. Thus, it is respectfully asserted that Vidkjaer, either alone or in combination, fails to teach all of the claim limitations and, therefore, the Office Action fails to establish a prima facie case of obviousness. (Request for continued examination filed February 28, 2006; pages 9 and 11-12).

In response, the examiner issued a non-final Office Action which maintained the rejection of Vidkjaer in view of Ota for the reasons set forth in the previous Office Action and argued "the claim language only requires a 'region of deflection' and has no flexibility requirement". (Office Action mailed April 4, 2006; page 3).

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Applicants responded by amending the claims to include the limitation “said region of deflection having less resistance to flexing than the body of said container proximate to said region of deflection” and argued

Applicants’ position is that none of the cited documents suggests the “regions of deflection” employed in the present containers. In response, the Examiner (Office Action, page 3) surmises that the “region of deflection” could encompass reinforcing “ribs”, since no flexibility requirement is given.

In response to that position, the claims have now been amended to recite that the region of deflection has less resistance to flexing that [sic] does the proximate region of the container, i.e., is more flexible. This, of course, is the exact opposite of a reinforcing rib. (Remarks filed June 28, 2006; page 14).

A Notice of Allowance was mailed by the Office on September 19, 2006. The Notice of Allowance included an Examiner’s Amendment which amended the independent claims to include the limitation “allows flexion and thereby has”.

Accordingly, each of the 7,169,418 patent claims include the limitation

wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection.

The 7,169,418 patent claims were thus distinguished over the teachings of Vidkjaer which does not teach a region of deflection which allows flexion.

In the request for reexamination, it is argued

[w]ith respect to regions of deflection, the panels located between the support ribs of the Old Vidkjaer container are regions of deflection that allow flexion and have less resistance to flexing than the ribs, which are part of the body of the container proximate to the panels. Old Vidkjaer describes the ribs (3) as “reinforcement ribs (3), permitting therefore to reduce further the thickness of the used materials.” (column 4, lines 58-60). One of ordinary skill in the art would understand that these ribs reinforce the structure by having more resistance to flexing than the

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proximate panels, and that the panels are therefore regions of deflection.
(Request, page 46).

Requester's arguments to the contrary notwithstanding, Vidkjaer does not "teach regions of deflection that allow flexion." Vidkjaer teaches that the valved package includes "a one-way valve (8) authorizing the carbon dioxide which can be formed during the storage to escape for avoiding any swelling of the assembly and its explosion. This valve operates as soon as the inside pressure reaches between 3 to 7 mbar above the atmospheric pressure." (column 4, line 66 to column 5, line 4; emphasis added). Accordingly, the package of Vidkjaer does not include regions of deflection that allow flexion. The mere fact that the package of Vidkjaer includes reinforcing ribs is not a teaching of, or for that matter, transform the regions adjacent to those ribs into "regions of deflection that allow flexion."

Conclusion

This is a RIGHT OF APPEAL NOTICE (RAN); see MPEP § 2673.02 and § 2674. The decision in this Office action as to the patentability or unpatentability of any original patent claim, any proposed amended claim and any new claim in this proceeding is a FINAL DECISION.

No amendment can be made in response to the Right of Appeal Notice in an *inter partes* reexamination. 37 CFR 1.953(c). Further, no affidavit or other evidence can be submitted in an *inter partes* reexamination proceeding after the right of appeal notice, except as provided in 37 CFR 1.981 or as permitted by 37 CFR 41.77(b)(1). 37 CFR 1.116(f).

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Each party has a **thirty-day or one-month time period, whichever is longer**, to file a notice of appeal. The patent owner may appeal to the Board of Patent Appeals and Interferences with respect to any decision adverse to the patentability of any original or proposed amended or new claim of the patent by filing a notice of appeal and paying the fee set forth in 37 CFR 41.20(b)(1). The third party requester may appeal to the Board of Patent Appeals and Interferences with respect to any decision favorable to the patentability of any original or proposed amended or new claim of the patent by filing a notice of appeal and paying the fee set forth in 37 CFR 41.20(b)(1).

In addition, a patent owner who has not filed a notice of appeal may file a notice of cross appeal within **fourteen days of service** of a third party requester's timely filed notice of appeal and pay the fee set forth in 37 CFR 41.20(b)(1). A third party requester who has not filed a notice of appeal may file a **notice of cross appeal within fourteen days of service** of a patent owner's timely filed notice of appeal and pay the fee set forth in 37 CFR 41.20(b)(1).

Any appeal in this proceeding must identify the claim(s) appealed, and must be signed by the patent owner (for a patent owner appeal) or the third party requester (for a third party requester appeal), or their duly authorized attorney or agent.

Any party that does not file a timely notice of appeal or a timely notice of cross appeal will lose the right to appeal from any decision adverse to that party, but will not lose the right to file a respondent brief and fee where it is appropriate for that party to do so. If no party files a timely appeal, the reexamination prosecution will be terminated, and the Director will proceed to issue and publish a certificate under 37 CFR 1.997 in accordance with this Office action.

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Duty to Disclose

The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 7,169,418 throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding.

Correspondence

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Notice Re Patent Owner's Correspondence Address

Effective May 16, 2007, 37 CFR 1.33(c) has been revised to provide that:

The patent owner's correspondence address for all communications in an *ex parte* reexamination or an *inter partes* reexamination is designated as the correspondence address of the patent.

Revisions and Technical Corrections Affecting Requirements for Ex Parte and Inter Partes Reexamination, 72 FR 18892 (April 16, 2007)(Final Rule)

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The correspondence address for any pending reexamination proceeding not having the same correspondence address as that of the patent is, by way of this revision to 37 CFR 1.33(c), automatically changed to that of the patent file as of the effective date.

This change is effective for any reexamination proceeding which is pending before the Office as of May 16, 2007, including the present reexamination proceeding, and to any reexamination proceeding which is filed after that date.

Parties are to take this change into account when filing papers, and direct communications accordingly.

In the event the patent owner's correspondence address listed in the papers (record) for the present proceeding is different from the correspondence address of the patent, it is strongly encouraged that the patent owner affirmatively file a Notification of Change of Correspondence Address in the reexamination proceeding and/or the patent (depending on which address patent owner desires), to conform the address of the proceeding with that of the patent and to clarify the record as to which address should be used for correspondence.

Telephone Numbers for reexamination inquiries:

Reexamination and Amendment Practice	(571) 272-7703
Central Reexam Unit (CRU)	(571) 272-7705
Reexamination Facsimile Transmission No.	(571) 273-9900

Correspondence

Please mail any communications to:

Attn: Mail Stop "Inter Partes Reexam"
Central Reexamination Unit
Commissioner for Patents
P. O. Box 1450
Alexandria VA 22313-1450

Please FAX any communications to:

(571) 273-9900
Central Reexamination Unit

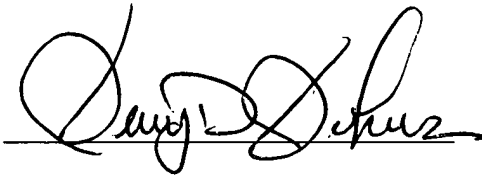
Application/Control Number:
95/000,219
Art Unit: 3991

Page 22


Please hand-deliver any communications to:

Customer Service Window
Attn: Central Reexamination Unit
Randolph Building, Lobby Level
401 Dulany Street
Alexandria, VA 22314


Signed:



Jerry D. Johnson
Primary CRU Examiner
AU 3991



DEBORAH D. JONES
CRU SPE-AU 3991



ALAN D. DIAMOND
PRIMARY EXAMINER
CRU - AU 3991

Index of Claims

Application/Control No.

95/000,219

Examiner

Jerry D. Johnson

Applicant(s)/Patent under
Reexamination

7169418

Art Unit

3991

√	Rejected
=	Allowed

—	(Through numeral) Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date											
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Customized Form PTO/SB/31 (12-07)

<p align="center">NOTICE OF APPEAL</p> <p align="center">FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES</p> <p align="center">in an INTER PARTES REEXAMINATION</p>	Control #	95/000,219
	Patent #	7,169,418
	Filing Date	03/08/2007
	First Inventor	Dalton
	Art Unit	3991
	Examiner	Jerry Johnson
	Req. Docket #	X-009/MP
<p>Attn: Main Stop "Inter Partes Reexam" Central Reexamination Unit Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450</p>		
<p>Requestor hereby appeals to the Board of Patent Appeals and Interferences from the decision of the examiner in the RIGHT OF APPEAL NOTICE mailed January 14, 2008 favorable to the patentability of all claims 1-55 of the above noted patent under inter partes reexamination.</p> <p>Requestor contests the final decision of the examiner favorable to patentability of every one of claims 1-55 over every rejection previously proposed by requestor. Those rejections previously proposed by requestor and the examiner's decision favorable to patentability of the claims thereover which is now being contested, are specifically identified on the following pages 2-7.</p> <p>A Certificate of Service is provided herewith at page 8.</p> <p>The fee for this NOTICE OF APPEAL is (37 CFR 41.20(b)(1)): <input checked="" type="checkbox"/> Large Entity \$ 510</p> <p><input checked="" type="checkbox"/> Payment by credit card. Form PTO-2038 is enclosed. (covering: <input checked="" type="checkbox"/> the fee indicated above and <input type="checkbox"/> an extension of time fee)</p> <p><input checked="" type="checkbox"/> <i>The Director is hereby authorized to charge any fee or additional fees due under 37 CFR 1.16 and 1.17 in connection herewith, or to credit any overpayment, to Deposit Account No. 12-0555.</i></p>		

I am the Requestor's Attorney of Record.

Date: February 14, 2008


 Signed By Name: Marvin Petry
 Attorney of Record Registration No.: 22752

STITES & HARBISON PLLC ♦ 1199 North Fairfax St. ♦ Suite 900 ♦ Alexandria, VA 22314
 TEL: 703-739-4900 ♦ FAX: 703-739-9577 ♦ CUSTOMER NO. 00881

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Patent No. 7,169,418

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APPEAL

Responsive to RAN
Mailed 01/14/2008

FAVORABLE PATENTABILITY DECISIONS BEING CONTESTED

The following listings detail the rejections previously proposed by requestor and the examiner's decision in the RAN favorable to patentability of all original claims 1-55 thereover which is now being contested by requestor. It will be noted that the patentability of every one of claims 1-55 is contested over every rejection previously proposed by requestor. For convenience, independent claim numbers are highlighted for easy identification.

I. Requestor hereby contests the decision favorable to patentability of the noted claims (covering all claims 1-55) over the following combinations of references (base combination: **Melrose v. Goglio '994**):

Patentability of claims 1, 8-10, 14-15, 19, 22-23, 26, 31-32, **33-35**, **37-43**, **44-49**, and **50-55** is contested in view of the combination of Melrose in view of Goglio '994.

Patentability of claims 2-7, 11-13, 20-21, and 36 is contested in view of the combination of Melrose in view of Goglio '994, and further in view of Vidkjaer.

Patentability of claims 3-4 is additionally contested in view of the combination of Melrose in view of Goglio '994, and further in view of Bruke.

Patentability of claims 9, 11-13, 20-21, and **33-36** is additionally contested in view of the combination of Melrose in view of Goglio '994, and further in view of Haas.

Patentability of claims 9, 20-21, and **33-36** is additionally contested in view of the combination of Melrose in view of Goglio '994, and further in view of Encyclopedia.

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Patentability of claims 16-18 is contested in view of the combination of Melrose in view of Goglio '994, and further in view of Goglio '954.

Patentability of claim 18 is additionally contested in view of the combination of Melrose in view of Goglio '994, and further in view of Goglio '954 and Encyclopedia.

Patentability of claims 24-25, 27, and 29-30 is contested in view of the combination of Melrose in view of Goglio '994, and further in view of Hargraves.

Patentability of claim 28 is contested in view of the combination of Melrose in view of Goglio '994, and further in view of Hargraves and Goglio '954.

II. Requestor hereby contests the decision favorable to patentability of the noted claims (covering all claims 1-55) over the following combinations of references (base combination: **Newcomb v. Melrose**):

Patentability of claims 1-3, 8-10, 14-15, 19-23, 26, 31-32, **33-35**, **37-43**, **44-49**, and **50-55** is contested in view of the combination of Newcomb in view of Melrose.

Patentability of claims 2-7, 11-13, 20-21, and 36 is contested in view of the combination of Newcomb in view of Melrose, and further in view of Vidkjaer.

Patentability of claims 3-4 is additionally contested in view of the combination of Newcomb in view of Melrose, and further in view of Bruke.

Patentability of claims 9, 11-13, 20-21, and **33-36** is additionally contested in view of the combination of Newcomb in view of Melrose, and further in view of Haas.

Patentability of claims 9, 20-21, and **33-36** is additionally contested in view of the combination of Newcomb in view of Melrose, and further in view of Encyclopedia.

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Patentability of claims 16-18 is contested in view of the combination of Newcomb in view of Melrose, and further in view of Goglio '954.

Patentability of claim 18 is additionally contested in view of the combination of Newcomb in view of Melrose, and further in view of Goglio '954 and Encyclopedia.

Patentability of claims 24-25, 27, 29 and 30 is contested in view of the combination of Newcomb in view of Melrose, and further in view of Hargraves.

Patentability of claim 28 is contested in view of the combination of Newcomb in view of Melrose, and further in view of Hargraves and Goglio '954.

III. Requestor hereby contests the decision favorable to patentability of the noted claims (covering all claims 1-55) over the following combinations of references (base combination: **Lane v. Goglio '994**):

Patentability of claims 1, 8-10, 14-15, 19, 22-23, 26, 31-32, **33-35**, **37-43**, **44-49**, and **50-55** is contested in view of the combination of Lane in view of Goglio '994.

Patentability of claims 2-7, 11-13, 20-21 and 36 is contested in view of the combination of Lane in view of Goglio '994, and further in view of Vidkjaer.

Patentability of claims 3-4 is additionally contested in view of the combination of Lane in view of Goglio '994, and further in view of Bruke.

Patentability of claims 9, 11-13, 20-21, and **33-36** is additionally contested in view of the combination of Lane in view of Goglio '994, and further in view of Haas.

Patentability of claims 9, 20-21, and **33-36** is additionally contested in view of the combination of Lane in view of Goglio '994, and further in view of Encyclopedia.

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Patent No. 7,169,418

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APPEAL

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Patentability of claims 16-18 is contested in view of the combination of Lane in view of Goglio '994, and further in view of Goglio '954.

Patentability of claim 18 is additionally contested in view of the combination of Lane in view of Goglio '994, and further in view of Goglio '954 and Encyclopedia.

Patentability of claims 24-25, 27 and 29-30 is contested in view of the combination of Lane in view of Goglio '994, and further in view of Hargraves.

Patentability of claim 28 is contested in view of the combination of Lane in view of Goglio '994, and further in view of Hargraves and Goglio '954.

IV. Requestor hereby contests the decision favorable to patentability of the noted claims (covering all claims 1-55) over the following combinations of references (base combination: **Hargraves v. Goglio '994**):

Patentability of claims 1, 8-10, 14, 19, 22-27, 30, **33-35**, **37-39**, 41-43, **44-46**, 48-49, and **50-52**, 54-55 is contested in view of the combination of Hargraves in view of Goglio '994.

Patentability of claims 2-7, 11-13, 20-21, 29, 31-32, and 36 is contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Vidkjaer.

Patentability of claims 33-36 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Haas.

Patentability of claims 33-36 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Encyclopedia.

Patentability of claims 15, 40, 47, and 53 is contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Melrose.

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Patent No. 7,169,418

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Patentability of claims 16-18 and 28 is contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Goglio '954.

Patentability of claims 1, 8, 10, 14-15, 19, 22-27, 30, 37-43, 44-49, and 50-55 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota.

Patentability of claims 2, 5-7, 29, and 31-32 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota and Vidkjaer.

Patentability of claims 3-4 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota and Bruke.

Patentability of claims 9, 11-13, and 20-21 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota and Haas.

Patentability of claims 9 and 20-21 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota and Encyclopedia.

Patentability of claims 16-17 and 28 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota and Goglio '954.

Patentability of claim 18 is additionally contested in view of the combination of Hargraves in view of Goglio '994, and further in view of Ota, Goglio '954 and Encyclopedia.

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V. Requestor hereby contests the decision favorable to patentability of the noted claims

(covering all claims 1-55) over the following combinations of references (base

combination: **Vidkjaer v. Melrose**):

Patentability of claims 1-15, 19-21, 26 and 31-32 is contested in view of the combination of Vidkjaer in view of Melrose.

Patentability of claims 3-4 is additionally contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Bruke.

Patentability of claims 11-13, and 20-21 is additionally contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Haas.

Patentability of claims 20-21 is additionally contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Encyclopedia.

Patentability of claims 16-18 is contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Goglio '954.

Patentability of claim 18 is additionally contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Goglio '954 and Encyclopedia.

Patentability of claims 22-25, 27, 29-30, **33-36**, **37-43**, **44-49**, and **50-55** is contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Hargraves.

Patentability of claim 28 is contested in view of the combination of Vidkjaer in view of Melrose, and further in view of Hargraves and Goglio '954.

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Patent No. 7,169,418

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Responsive to RAN
Mailed 01/14/2008

Certificate of Service.

It is certified that a copy of this NOTICE OF APPEAL has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c), by mailing with the United States Postal Service.

The name and address of the party served and the date of service are:

THE PROCTER & GAMBLE COMPANY
Intellectual Property Division - West Bldg.
Winton Hill Business Center - Box 412
6250 Center Hill Avenue
Cincinnati, Ohio 45224

Date: February 14, 2008


Signed By Name: Marvin Petry
Attorney of Record Registration No.: 22752

STITES & HARBISON PLLC ♦ 1199 North Fairfax St. ♦ Suite 900 ♦ Alexandria, VA 22314
TEL: 703-739-4900 ♦ FAX: 703-739-9577 ♦ CUSTOMER NO. 00881

Electronic Patent Application Fee Transmittal

Application Number:	95000219			
Filing Date:	08-Mar-2007			
Title of Invention:	PACKAGING SYSTEM TO PROVIDE FRESH PACKED COFFEE			
First Named Inventor/Applicant Name:	7169418			
Filer:	Marvin Petry/Susan Finke			
Attorney Docket Number:				
Filed as Large Entity				
inter partes reexam Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Notice of appeal	1401	1	510	510
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				510

Electronic Acknowledgement Receipt

EFS ID:	2858759
Application Number:	95000219
International Application Number:	
Confirmation Number:	8236
Title of Invention:	PACKAGING SYSTEM TO PROVIDE FRESH PACKED COFFEE
First Named Inventor/Applicant Name:	7169418
Customer Number:	27752
Filer:	Marvin Petry/Susan Finke
Filer Authorized By:	Marvin Petry
Attorney Docket Number:	
Receipt Date:	14-FEB-2008
Filing Date:	08-MAR-2007
Time Stamp:	11:40:32
Application Type:	inter partes reexam

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal - Requester	L000000009-NoticeOfAppeal-CertOfService-2-14-08.pdf	369576 250e8d7b2407d6a285a53ecadceeado024ad670d	no	8

Warnings:

Information:

2	Fee Worksheet (PTO-06)	fee-info.pdf	8137 7df77eaede2482d754898d8f20c3b366 e041ddfc	no	2
Warnings:					
Information:					
Total Files Size (in bytes):				377713	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



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REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/010,090	01/18/2008	7169418

STITES & HARBISON PLLC
1199 NORTH FAIRFAX STREET
SUITE 900
ALEXANDRIA, VA 22314

**CONFIRMATION NO. 4702
REEXAMINATION REQUEST
NOTICE**



Date Mailed: 01/25/2008

NOTICE OF REEXAMINATION REQUEST FILING DATE

(Third Party Requester)

Requester is hereby notified that the filing date of the request for reexamination is 01/18/2008, the date that the filing requirements of 37 CFR § 1.510 were received.

A decision on the request for reexamination will be mailed within three months from the filing date of the request for reexamination. (See 37 CFR 1.515(a)).

A copy of the Notice is being sent to the person identified by the requester as the patent owner. Further patent owner correspondence will be the latest attorney or agent of record in the patent file. (See 37 CFR 1.33). Any paper filed should include a reference to the present request for reexamination (by Reexamination Control Number).

cc: Patent Owner

27752

THE PROCTER & GAMBLE COMPANY
INTELLECTUAL PROPERTY DIVISION - WEST BLDG.
WINTON HILL BUSINESS CENTER - BOX 412
6250 CENTER HILL AVENUE
CINCINNATI, OH 45224

RECEIVED

JAN 28 2008

STITES & HARBISON, PLLC

/sdstevenson/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900



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REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/010,090	01/18/2008	7169418

CONFIRMATION NO. 4702

REEXAM ASSIGNMENT NOTICE



27752

THE PROCTER & GAMBLE COMPANY
 INTELLECTUAL PROPERTY DIVISION - WEST BLDG.
 WINTON HILL BUSINESS CENTER - BOX 412
 6250 CENTER HILL AVENUE
 CINCINNATI, OH 45224

Date Mailed: 01/25/2008

NOTICE OF ASSIGNMENT OF REEXAMINATION REQUEST

The above-identified request for reexamination has been assigned to Art Unit 3991. All future correspondence to the proceeding should be identified by the control number listed above and directed to the assigned Art Unit.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or to all owners of record. (See 37 CFR 1.33(c)). If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned within the request to withdraw pursuant to Section 1.36.

cc: Third Party Requester(if any)
 STITES & HARBISON PLLC
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RECEIVED

JAN 28 2008

STITES & HARBISON, PLLC

/sdstevenson/

Legal Instruments Examiner
 Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN**

KRAFT FOODS HOLDINGS, INC.,

Plaintiff,

v.

THE PROCTER & GAMBLE COMPANY,

Defendant

Case No. 07-C-0613-S

THE PROCTER & GAMBLE COMPANY,

Counterclaim Plaintiff

v.

KRAFT FOODS HOLDINGS, INC.

Counterclaim Defendant

and

KRAFT FOODS GLOBAL, INC.

Third-Party Defendant

**ANSWER TO KRAFT FOODS HOLDINGS, INC.'S AMENDED COMPLAINT;
COUNTERCLAIMS AND THIRD-PARTY COMPLAINT OF THE PROCTER &
GAMBLE COMPANY; DEMAND FOR JURY TRIAL**

Defendant and Counterclaim Plaintiff, The Procter & Gamble Company ("P&G"), answers the First Amended Complaint of Plaintiff Kraft Foods Holdings, Inc. ("KFH") and asserts its Counterclaim and Third-Party Claim against KFH and Third-Party Defendant Kraft Foods Global, Inc. ("KFG") (collectively, "Kraft"), as follows:

THE PARTIES

1. P&G admits that Kraft is a Delaware Corporation and that it has a principal place of business in Northfield, Illinois.

2. Admitted.

JURISDICTION AND VENUE

3. P&G admits that Kraft purports to allege a cause of action under the patent laws of the United States. P&G admits that Kraft purports to invoke subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a). P&G admits that it is subject to personal jurisdiction in this Court with respect to the claims asserted in the Complaint. P&G denies the remaining allegations of paragraph 3, including that it has committed any acts of infringement.

4. P&G also admits that venue exists in this judicial district under 28 U.S.C. 1331, 1391(b), (c), and 1400(b). P&G denies the remaining allegations in paragraph 4 of the Complaint.

ALLEGED INFRINGEMENT OF U.S. PATENT NO. 7,074,443

5. P&G admits that U.S. Patent No. 7,074,443 (the “’443 Patent”), entitled “Vented Can Overcap,” issued on July 11, 2006. P&G further admits that the face of the ’443 Patent lists KFH as the “Assignee.” P&G is without knowledge or information sufficient to form a belief as to the truth of KFH’s allegation that it owns the patent. P&G denies the remaining allegations of paragraph 5 of the Complaint.

6. P&G denies the allegations of paragraph 6 of the Complaint.

7. P&G denies the allegations of paragraph 7 of the Complaint.

RESPONSE TO PRAYER FOR RELIEF

P&G denies that Kraft is entitled to any of the relief it has requested.

FIRST AFFIRMATIVE DEFENSE

(Invalidity)

Each claim of the ’443 Patent is invalid and/or unenforceable for failure to comply with the requirements of patentability stated in Title 35, United States Code, and particularly the

requirements of one or more of 35 U.S.C. §§ 101, 102, 103, and 112.

SECOND AFFIRMATIVE DEFENSE

(Non-Infringement of the '443 Patent)

P&G has not infringed, and currently does not infringe any valid claim of the '443 Patent directly, indirectly, contributorily, by inducement, under the doctrine of equivalents, or in any other manner.

THIRD AFFIRMATIVE DEFENSE

(Prosecution history estoppel)

Kraft is estopped by the doctrine of prosecution history estoppel from asserting infringement under the doctrine of equivalents for one or more of asserted claims.

FOURTH AFFIRMATIVE DEFENSE

(Marking)

Kraft and/or its licensees has failed to mark articles patented under the '443 Patent in a manner sufficient to give notice under 35 U.S.C. Section 287 thereby barring any recovery of damages for the period before Kraft commenced this action.

PRAYER FOR RELIEF ON KFH'S COMPLAINT

WHEREFORE, P&G prays that Kraft take nothing by its Complaint, and that P&G be awarded judgment in this action, costs of suit incurred herein, and such other relief as the Court deems just and proper.

COUNTERCLAIMS

For its counterclaims and third-party claim against KFH and KFG, P&G alleges as follows:

THE PARTIES

1. P&G is an Ohio corporation with its principal place of business in Cincinnati, Ohio.
2. KFH is a Delaware corporation with a principal place of business in Northfield, Illinois.

3. KFG is a Delaware corporation with a principal place of business in Northfield, Illinois.

4. On information and belief, KFG is a wholly-owned subsidiary of Kraft Foods Inc., a Virginia Corporation, which is engaged, through its subsidiaries, in the manufacture and sale of packaged foods and beverages in the United States, including Maxwell House brand ground, roast coffee in 39-ounce plastic containers. On information and belief, KFH is a wholly-owned subsidiary of KFG.

5. KFH is the assignee of record of the '443 Patent, issued to Jeffrey A. Thomas, Jeffrey Alan Zimmermann, Prias DeCleur, and Mete Bruncaj ("Assignors"). On information and belief, the Assignors, working either directly or indirectly for KFH in collaboration with members of the Global Technology & Quality Group of Kraft Foods Inc., designed and made plastic containers for ground, roast coffee beginning in about 2002 and assigned the rights to those designs to KFH. On information and belief, KFH licensed KFG to manufacture, distribute, offer for sale and sell Maxwell House brand coffee sold in 39-ounce containers using technology developed for KFH by the Assignors. On information and belief, KFG manufactures, markets, and sells Maxwell House brand coffee in 39-ounce plastic containers designed, developed, and made by the Assignors and licensed to KFG by KFH.

JURISDICTION AND VENUE

6. Paragraphs 1 through 5 are incorporated herein by reference.

7. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, including 35 U.S.C. § 271 *et seq.* The Court additionally has jurisdiction over P&G's counterclaims because they arise under the Declaratory Judgment Act, 28 U.S.C. §§ 2201, 2202 and 28 U.S.C. § 1338(a). There is a justiciable controversy concerning the validity, enforceability, and infringement of the '443 Patent, which Kraft alleges is being infringed and causing irreparable harm to their business.

8. The Court has personal jurisdiction over KFH and KFG based on their filing of this lawsuit. The Court also has personal jurisdiction over KFH and KFG because they have systematic and continuous contacts with the State of Wisconsin and with this judicial district such that the exercise of jurisdiction over them does not offend traditional notions of fair play and substantial justice. On information and belief, KFH licenses KFG to sell and/or distribute infringing products in this district and KFG sells and/or distributes infringing products in this district.

9. Venue with respect to KFH and KFG is proper in this district pursuant to 28 U.S.C. §§ 1331, 1391(b), (c) and 1400(b).

COUNT I

(Declaratory Relief of Invalidity of '443 Patent Against Kraft Foods Holding, Inc. and Kraft Foods Global, Inc.)

10. Paragraphs 1 through 9 are incorporated herein by reference.

11. An actual controversy exists between P&G and KFH and KFG as a result of KFH and KFG's assertion in the Amended Complaint that they own the '443 Patent, that P&G allegedly infringes this patent, and that the alleged infringement is causing irreparable harm to their business.

12. On information and belief, the asserted claims of the '443 Patent are invalid for failure to comply with the requirements of patentability stated in Title 35, United States Code, and particularly one or more of the requirements of 35 U.S.C. §§ 101, 102, 103, and 112.

13. The claims of the '443 Patent are based on an application filing date identified by the patent as November 19, 2002. On information and belief, one or more of the claimed inventions of the '443 Patent are invalid under 35 U.S.C. § 102(g) based on prior invention by P&G's inventors, including P&G inventors who were awarded United States Patent 7,169,419 ("the '419 Patent"), entitled "Packaging System To Provide Fresh Packed Coffee." A true and correct copy of the '419 Patent is attached hereto as Exhibit A. On information and belief, P&G's inventors made one or more of the inventions claimed in the '443 Patent in this country

and did not abandon, suppress, or conceal the inventions. Based on the assertion of infringement by KFH and KFG, the '419 Patent discloses one or more of the inventions claimed in the '443 Patent.

COUNT II

(Declaratory Relief of Non-Infringement Against Kraft Foods Holding, Inc. and Kraft Foods Global, Inc.)

14. Paragraphs 1 through 13 are incorporated herein by reference.

15. KFH and KFG assert in their Amended Complaint that P&G infringes the '443 Patent. P&G does not infringe and has not infringed any valid claims of the '443 Patent.

COUNT III

(Infringement of U.S. Patent No. 7,169,419 By Kraft Foods Holding, Inc. and Kraft Foods Global, Inc.)

16. Paragraphs 1 through 15 are incorporated herein by reference.

17. On January 30, 2007, the United States Patent & Trademark Office ("USPTO") duly and legally issued the '419 Patent to inventors David Dalton, Kerry Weaver and Thomas Manske, Jr. These inventors have assigned all rights and interest in the '419 Patent to P&G. KFG has infringed and continues to infringe the '419 Patent. The infringing acts include at least manufacturing, using, selling, and/or offering to sell 39-ounce plastic containers of Maxwell House brand coffee. KFG is liable for infringement of the '419 Patent pursuant to 35 U.S.C. § 271.

18. KFG's acts of infringement have caused and are causing damage to P&G. P&G is entitled to recover from KFG the damages sustained by P&G as a result of KFG's infringement in an amount to be proven at trial. KFG's infringement of P&G's rights under the '419 Patent also is causing, and will continue to cause, irreparable harm to P&G, for which there is no adequate remedy at law, unless KFG is enjoined by this Court.

19. Upon information and belief, KFG's infringement of the '419 Patent is willful and deliberate, entitling P&G to increased damages under 35 U.S.C. § 284 and attorney fees incurred in prosecuting this action under 35 U.S.C. § 285.

20. On information and belief, KFG is the alter ego of KFH and they are jointly and severally liable for directly infringing the '419 Patent. On information and belief, KFH is a wholly-owned subsidiary of KFG and has substantially the same management and ownership, is commonly controlled by that management and ownership, and shares substantially the same business purpose with respect to the procurement of infringing technology for storing ground, roast coffee in plastic containers, the defense of litigation relating to this infringement, and the assertion of patent infringement claims relating to this technology. On information and belief, KFH and KFG do not maintain corporate formalities with respect to their development and procurement of technology and intellectual property and the conduct of litigation regarding to intellectual property relating to plastic containers used for storing ground, roast coffee. KFH filed this lawsuit as "KRAFT FOODS GLOBAL, INC.," as indicated on page 3 of its original Complaint, filed October 26, 2007. KFH also considers itself synonymous with "Plaintiff Kraft Foods Global, Inc.," as it stated in its original Corporate Disclosure Statement, filed October 26, 2007. In identifying the parent corporation of the plaintiff, Kraft Foods Global, the Corporate Disclosure Statement stated that "Kraft Foods Global, Inc. is a wholly owned subsidiary of Kraft Foods, Inc., a publicly traded company." Any attempt by KFG and KFH to rely on the fiction of being separate corporate entities would be inequitable in that it could allow KFH to accuse P&G as an alleged infringer in a litigation in which it may avoid having to answer for its own infringement of P&G's related '419 Patent on preexisting technology.

21. On information and belief, KFH, during the process of developing technology described in its patents relating to the storing of ground, roast coffee in plastic containers, including the '443 Patent, has infringed the '419 Patent by making or using one or more of the claimed inventions of the '419 Patent.

22. On information and belief, KFH, with knowledge of the '419 Patent, actively induced and encouraged KFG's infringement of the '419 patent by licensing KFG to use technology that infringes the '419 Patent by making, selling, and offering to sell ground, roast coffee in plastic containers that infringe the '419 Patent, and by making designs and information for practicing that technology available to KFG.

23. On information and belief, KFH's infringement of the '419 Patent is willful and deliberate, entitling P&G to increased damages under 35 U.S.C. § 284 and attorney fees incurred in prosecuting this action under 35 U.S.C. § 285.

PRAYER FOR RELIEF AS TO COUNTS I-III

WHEREFORE, P&G prays for judgment and seeks relief against KFH and KFG as follows:

- (a) That the Court determine and declare that one or more of the claims of the '443 Patent is invalid;
- (c) That the Court determine and declare that the claims of the '443 Patent are not infringed by P&G;
- (b) For preliminary and permanent injunctions enjoining the aforesaid acts of infringement by KFH and KFG, and their officers, agents, servants, employees, subsidiaries and attorneys, and those persons acting in concert with KFH and KFG, including related individuals and entities, customers, representatives, dealers, and distributors;
- (c) For an award of actual damages against KFH and KFG;
- (d) For an award of pre-judgment and post-judgment interest, according to proof against KFH and KFG,
- (e) For an award of enhanced damages pursuant to 35 U.S.C. § 284 against KFH and KFG;
- (f) For an award of attorney fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law against KFH and KFG;
- (g) For all costs of suit against KFH and KFG; and

(h) For such other and further relief as the Court may deem just and proper.

Dated this 9th day of January, 2008

Respectfully submitted,

By: s/ Paul F. Linn

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JURY DEMAND

P&G demands a jury trial on all issues that are triable by right to a jury.

Dated this 9th day of January, 2008

Respectfully submitted,

By: s/ Paul F. Linn

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US007169419B2

(12) **United States Patent**
Dalton et al.

(10) Patent No.: **US 7,169,419 B2**
(45) Date of Patent: ***Jan. 30, 2007**

(54) **PACKAGING SYSTEM TO PROVIDE FRESH PACKED COFFEE**

(75) Inventors: David Andrew Dalton, Loveland, OH (US); Kerry Lloyd Weaver, Florence, KY (US); Thomas James Manske, Jr., Mason, OH (US)

(73) Assignee: The Procter and Gamble Company, Cincinnati, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 19 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 10/724,309

(22) Filed: Dec. 2, 2003

(65) **Prior Publication Data**

US 2004/0137110 A1 Jul. 15, 2004

Related U.S. Application Data

(63) Continuation-in-part of application No. 10/155,338, filed on May 24, 2002.

(60) Provisional application No. 60/295,666, filed on Jun. 4, 2001.

(51) Int. Cl.
B65D 83/00 (2006.01)
B65D 85/00 (2006.01)

(52) U.S. Cl. 426/110; 426/118; 426/127

(58) Field of Classification Search 426/110, 426/118, 127, 126, 395, 396, 398; 220/495.03, 220/227, 366.1

See application file for complete search history.

(56) **References Cited**

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6,733,803 B1 * 5/2004 Vidjaer 426/62

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Marks' Standard Handbook for Mechanical Engineers (10th Edition). McGraw Hill (1996) [retrieved from online Aug. 18, 2004] Table 6.12.1 URL <<http://www.knovel.com/knovel2/Toc.jsp?SpaceID=162&BookID=346>>.*
"The Blow Molding Process". 2000. [retrieved from Internet on Aug. 10, 2004] URL <http://www.oxfordsource.com/Home/Design/Blow_Molding/blow_molding.html>.*

* cited by examiner

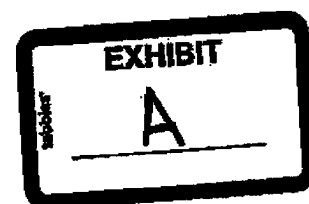
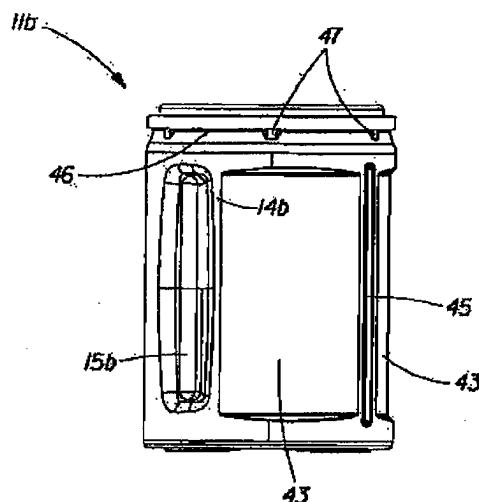
Primary Examiner—Arthur L. Corbin

(74) Attorney, Agent, or Firm—Ingrid N. Hackett; Carl J. Roof; Peter D. Meyer

(37) **ABSTRACT**

A packaging system useful for roast and ground coffee, having a container with a closed bottom, an open top, and a body enclosing a perimeter between the bottom and the top. An annular protuberance is disposed upon the body and is continuously disposed around the perimeter of the body proximate to the top. The protuberance forms a surface external to the body. The surface is substantially perpendicular to the longitudinal axis of the container. A flexible closure is removably attached and sealed to the protuberance so that the closure seals the interior volume of the container.

18 Claims, 10 Drawing Sheets



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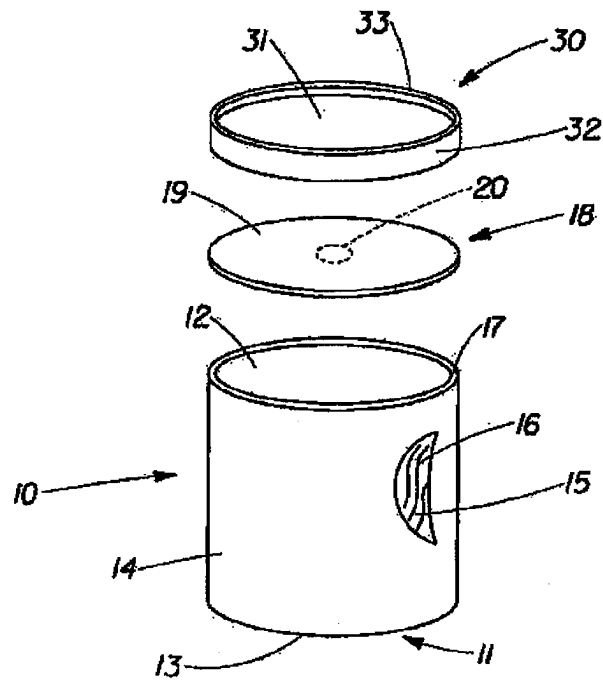


Fig. 1

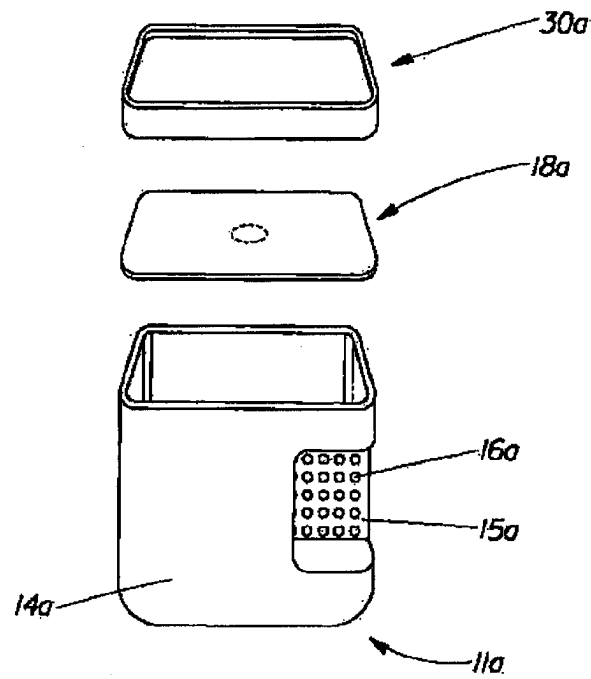


Fig. 2

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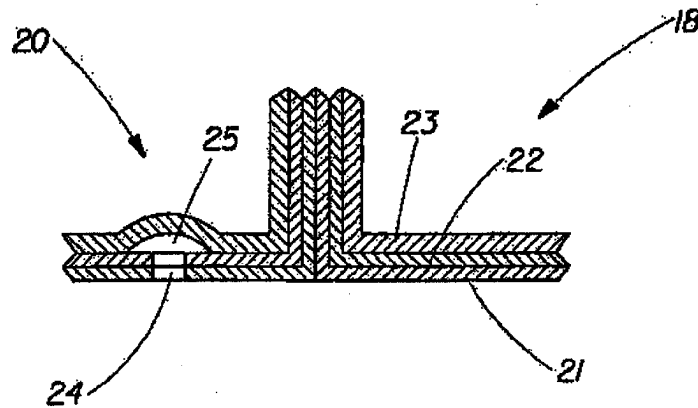


Fig. 3

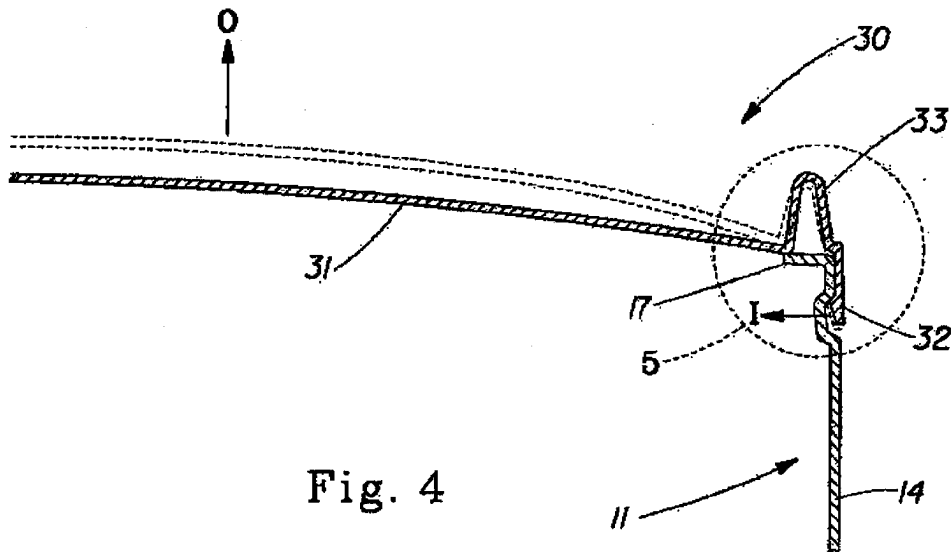


Fig. 4

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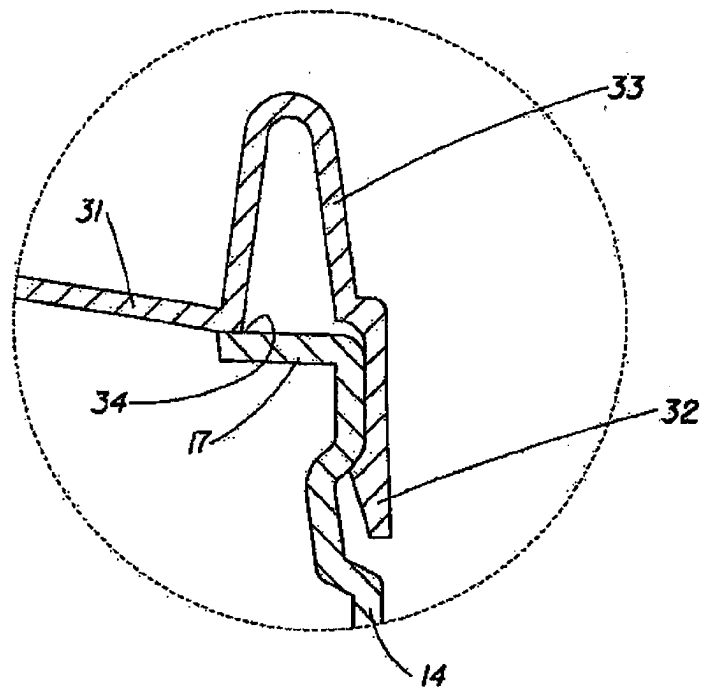


Fig. 5

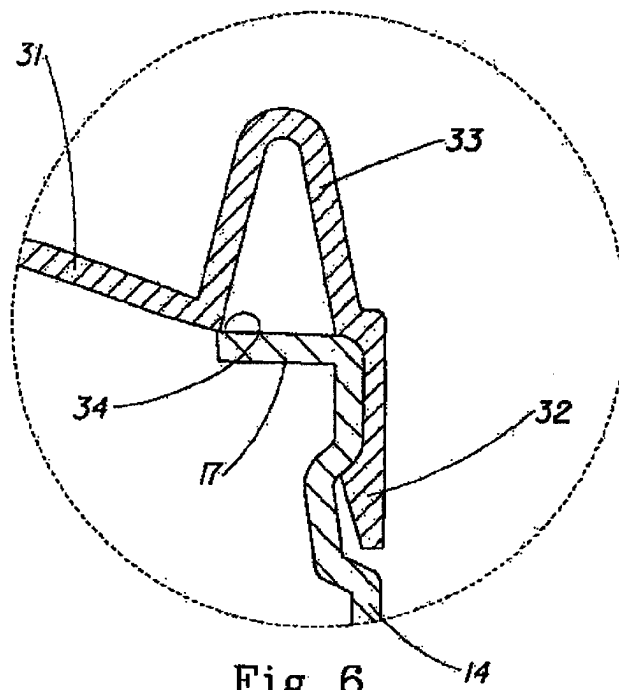


Fig. 6

U.S. Patent

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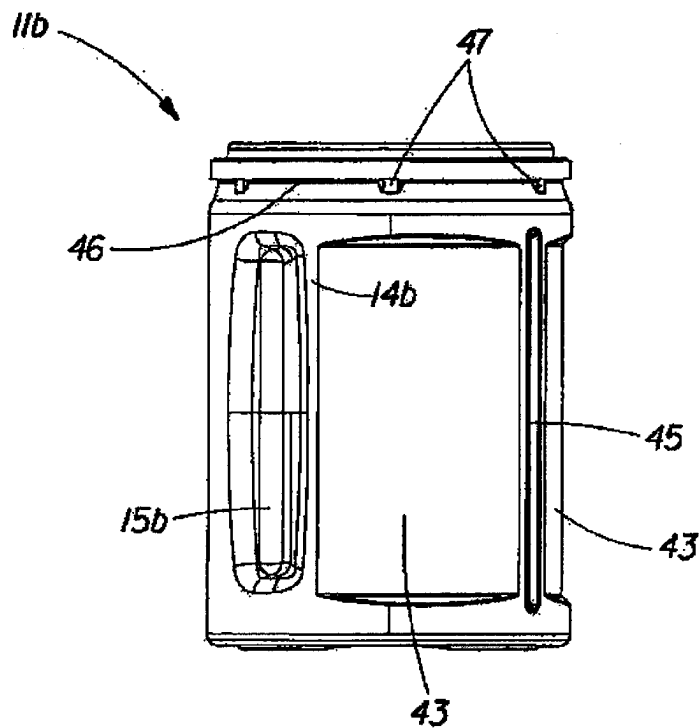


Fig. 7

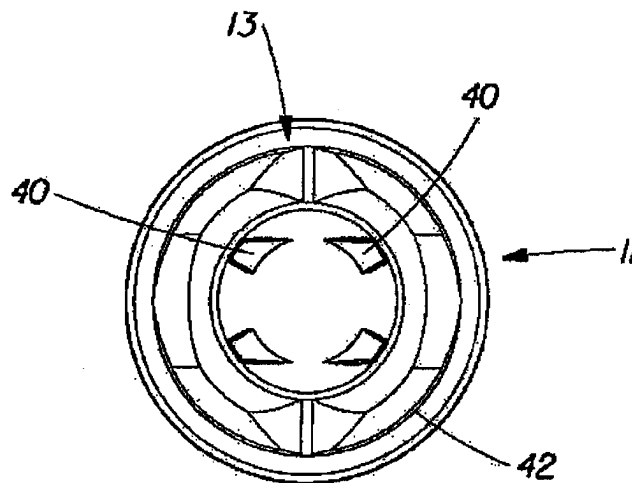


Fig. 7A

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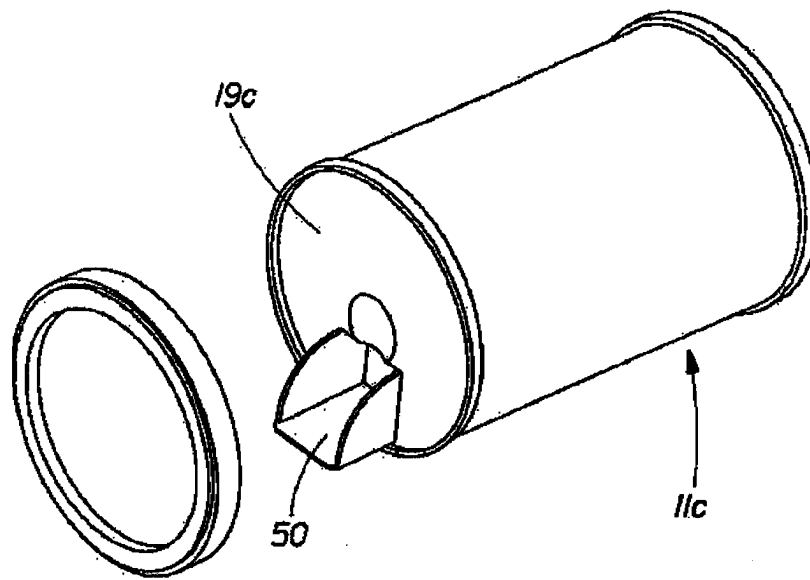


Fig. 8

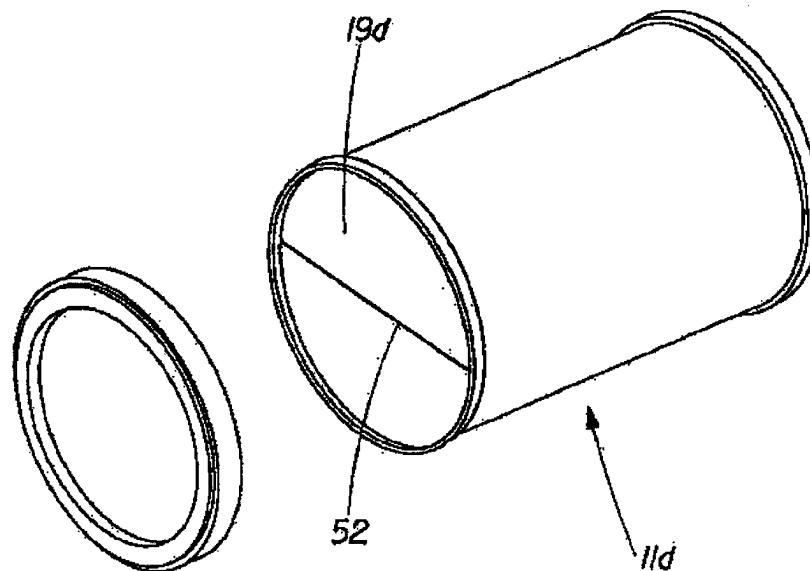


Fig. 8A

U.S. Patent

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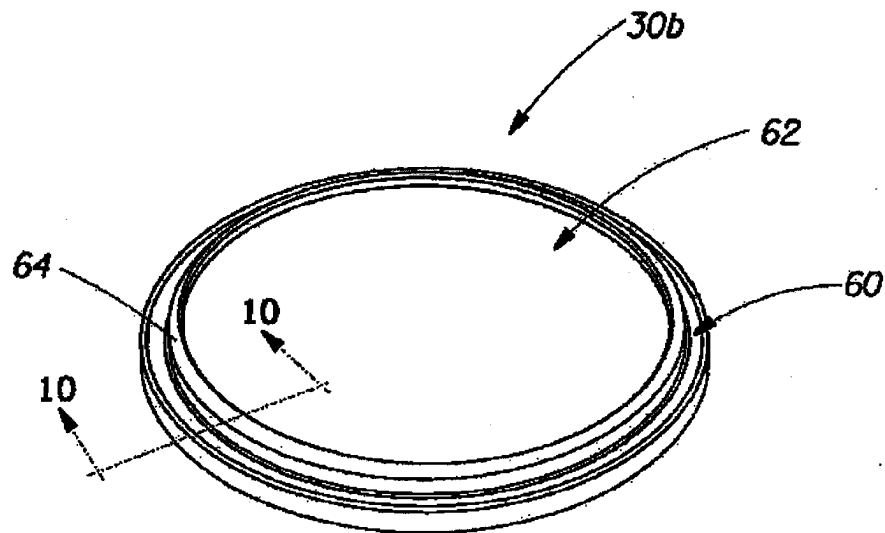


Fig. 9

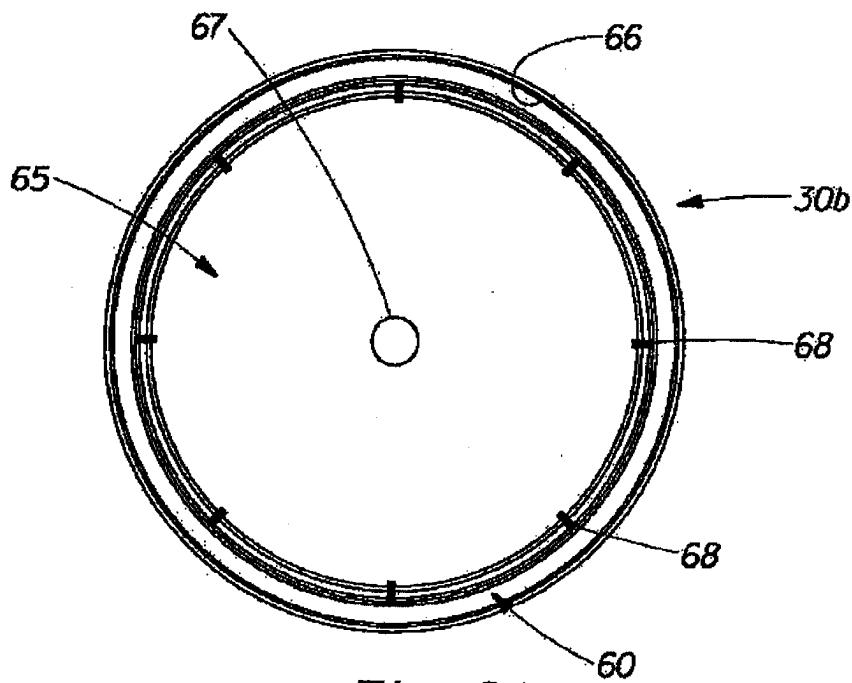


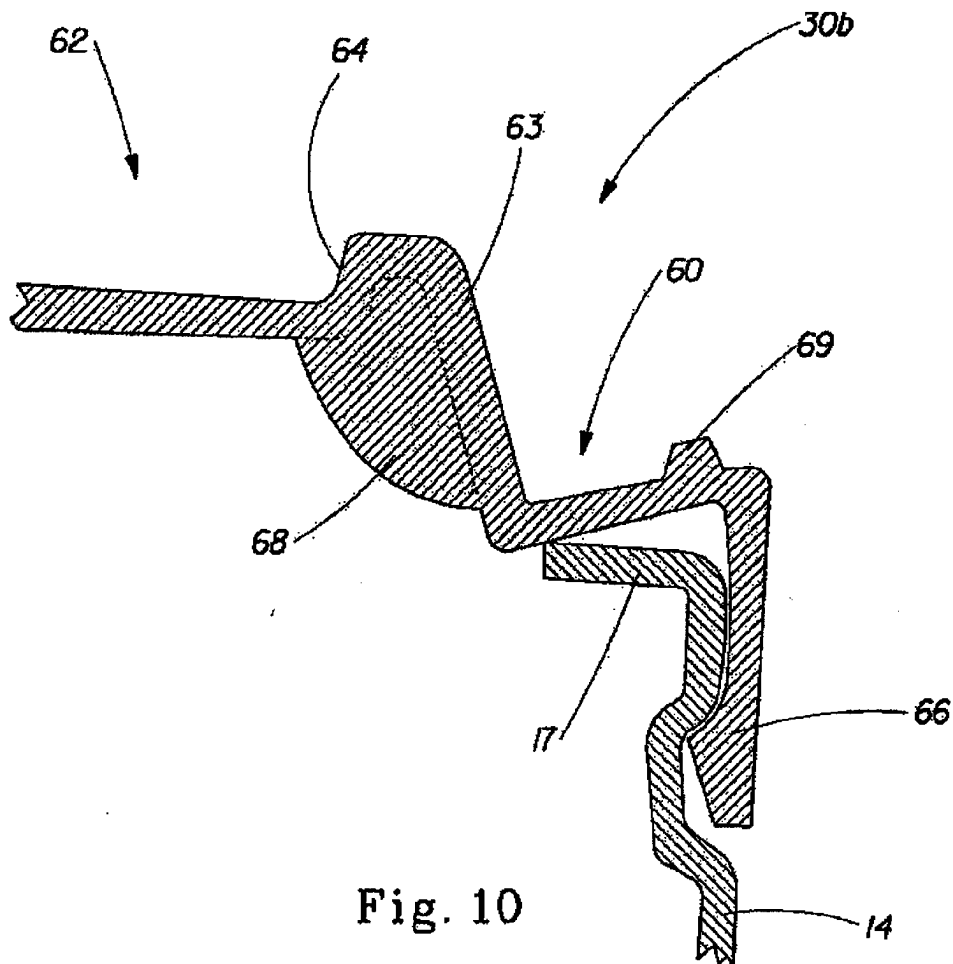
Fig. 9A

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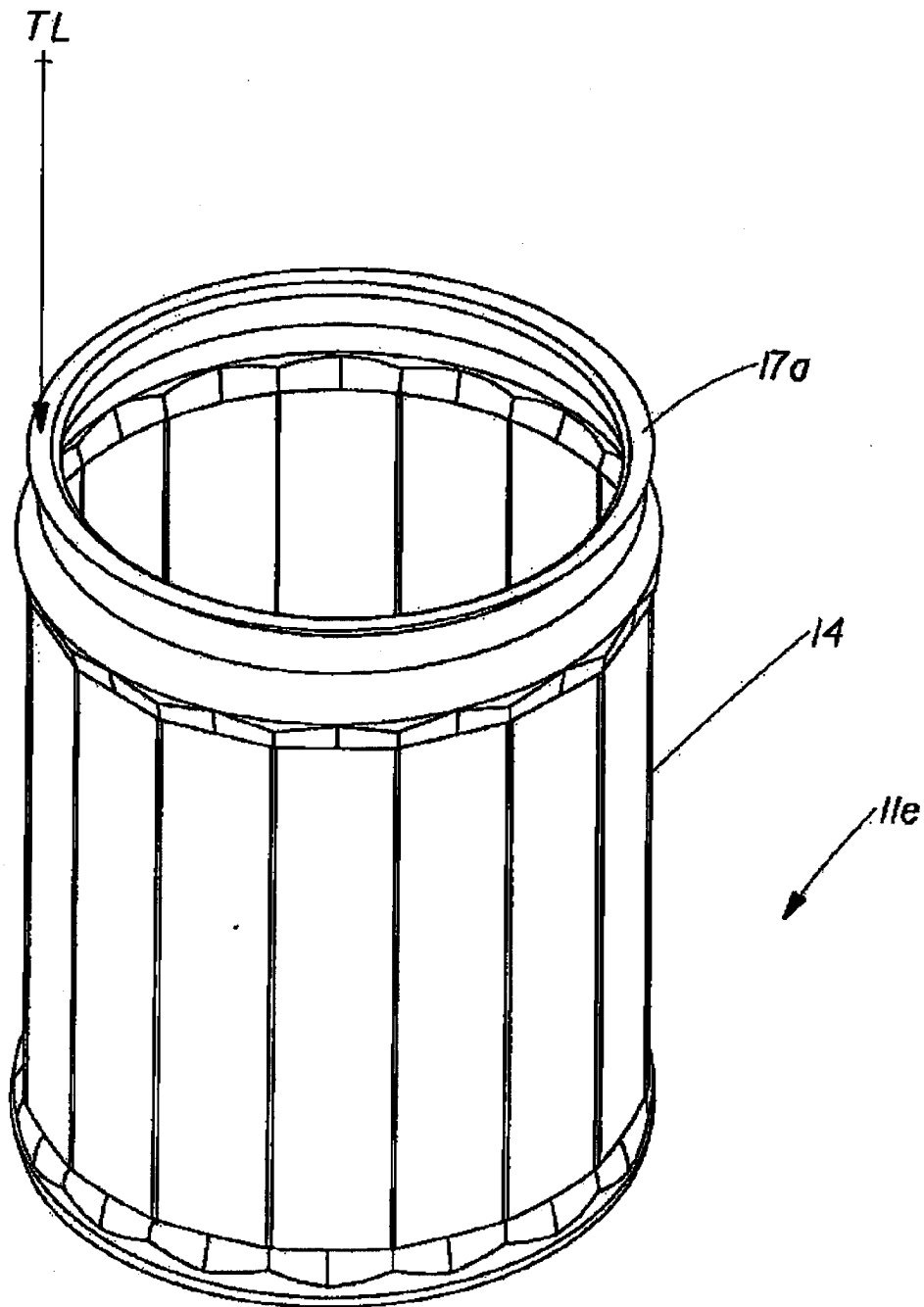


Fig. 11

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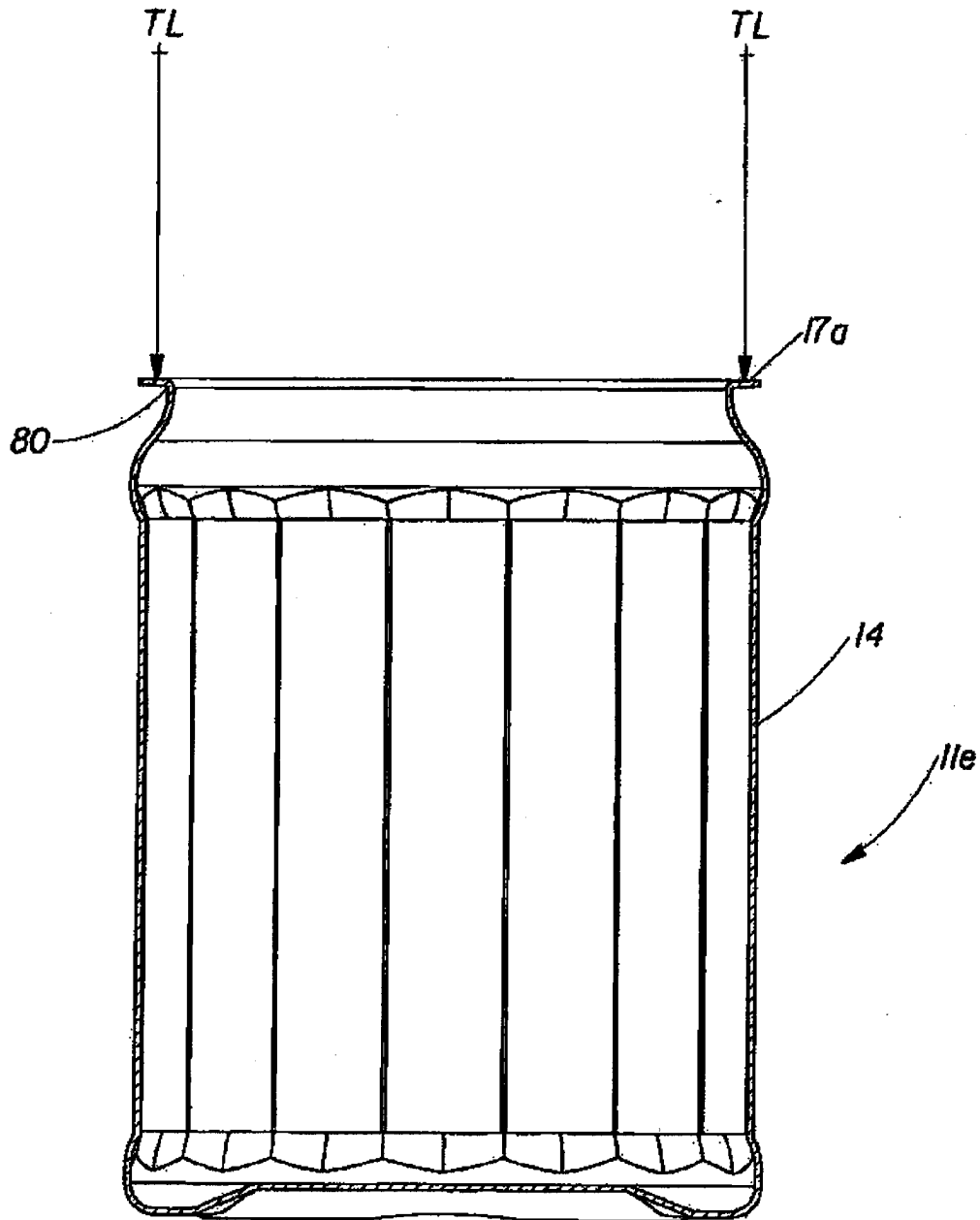


Fig. 12

U.S. Patent

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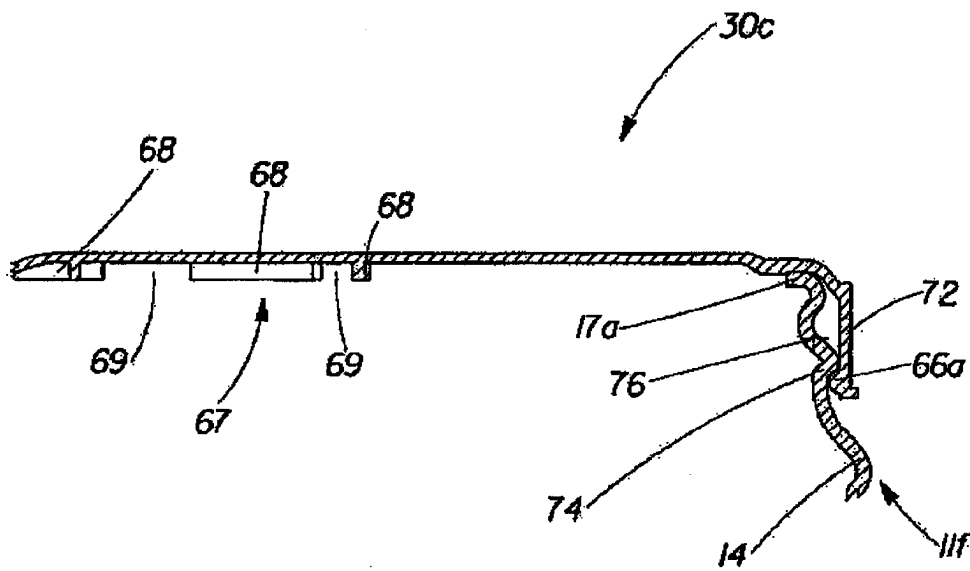


Fig. 13

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1

PACKAGING SYSTEM TO PROVIDE FRESH PACKED COFFEE

CROSS REFERENCE TO PRIOR APPLICATIONS

This application is a continuation-in-part of U.S. patent application Ser. No. 10/155,338, filed on May 24, 2002 (currently pending), which claims the benefit of U.S. Provisional Application Ser. No. 60/295,666, filed Jun. 4, 2001.

FIELD OF THE INVENTION

The present invention relates to a packaging system useful for packing fresh roast and ground coffee. The present invention still further relates to a more convenient, lightweight container that provides increased strength per mass unit of plastic for the transport of freshly roast and ground coffee.

BACKGROUND OF THE INVENTION

Packages such as cylindrical cans for containing a particulate product under pressure, such as roast and ground coffee, are representative of various articles to which the present invention is applicable. It is well known in the art that freshly roasted and ground coffee evolves substantial amounts of oils and gases, such as carbon dioxide, particularly after the roasting and grinding process. Therefore, roast and ground coffee is usually held in storage bins prior to final packing to allow for maximum off gassing of these volatile, natural products. The final coffee product is then placed into a package and subjected to a vacuum packing operation.

Vacuum packing the final coffee product results in reduced levels of oxygen in the headspace of the package. This is beneficial, as oxygen reactions are a major factor in the staling of coffee. A common package used in the industry is a cylindrical, tin-plated, and steel stock can. The coffee is first roasted, and then ground, and then vacuum packed within a can, which must be opened with a can opener, common to most households.

Packing coffee immediately after roasting and grinding provides substantial process savings, as the coffee does not require storage to complete the off-gas process. Also, the off-gas product usually contains high quantities of desirable volatile and semi-volatile aromatic compounds that easily volatilize and prevent the consumer from receiving the full benefit of the coffee drinking process. Furthermore, the loss of these aromatic compounds makes them unavailable for release in a standard container, thereby preventing the consumer from the full reception of the pleasurable burst of aroma of fresh roast and ground coffee. This aroma burst of volatile compounds is much more perceptible in a pressurized package than in a vacuum packed package.

It is therefore an object of the present invention to provide a handled package for roast and ground coffee that provides a lighter weight, fresher packing, easier-opening, peelable seal, and "burpable" closure alternative to a standard heavy can.

SUMMARY OF THE INVENTION

The present invention relates to a fresh packaging system for roast and ground coffee.

The present invention also relates to a method for packing coffee using the fresh packaging system for roast and ground coffee.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded perspective view of a preferred embodiment of the fresh packing system in accordance with the present invention;

FIG. 2 is an exploded perspective view of an alternative embodiment of the fresh packing system;

FIG. 3 is a cross-sectional view of an exemplary closure and one-way valve assembly for the fresh packing system;

FIG. 4 is a cross-sectional view of an exemplary overcap assembly for a fresh packing system;

FIG. 5 is an expanded, cross-sectional view of the region labeled 5 in FIG. 4 of the overcap in an applied position;

FIG. 6 is an expanded, cross-sectional view of the region labeled 5 in FIG. 4 of the overcap in an expanded position;

FIG. 7 is an elevational view of an alternative embodiment of the fresh packing system;

FIG. 7A is a bottom planar view of the embodiment of FIG. 7;

FIG. 8 is a perspective view of an alternative embodiment of the fresh packing system;

FIG. 8a is a perspective view of an alternative embodiment of the fresh packing system;

FIG. 9 is an isometric view of an alternative exemplary overcap for use with a fresh packing system;

FIG. 9a is a bottom planar view of the alternative exemplary overcap of FIG. 9;

FIG. 10 is a cross-sectional view of the region labeled 10 in FIG. 9 in contact with a fresh packaging system;

FIG. 11 is a perspective view of an alternative embodiment of the fresh packaging system;

FIG. 12 is a cross-sectional view of FIG. 11 along line 12-12; and,

FIG. 13 is a cross-sectional view of another exemplary overcap assembly for a fresh packing system.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is related to a fresh packaging system for roast and ground coffee. The packaging system comprises a container comprising a closed bottom, and open top and a body having an enclosed perimeter between the bottom and the top where the top, bottom, and body together define an interior volume. A flexible closure is removably attached and sealed to a protuberance disposed around the perimeter of the body proximate to the top. The container bottom and body are constructed from a material having a tensile modulus number ranging from at least about 35,000 (2,381 atm) pounds per square inch to at least about 650,000 pounds per square inch (44,230 atm), which provides a top load capacity of at least about 16 pounds (7.3 Kg).

The invention is more generally related to a method for the packing of coffee using the container of the present invention. The method steps include filling the container system described above with roast and ground coffee, flushing the container with an inert gas, and, sealing the container with a flexible closure.

The invention is also related to an article of manufacture that provides the end user with beneficial coffee aroma characteristics. The article comprises a closed bottom, an open top, and a polyolefin body forming an enclosed perimeter between said bottom and top together defining an interior volume. The body includes a protuberance continuously disposed around the perimeter of the body proximate to the top. A flexible closure is removably attached to the protuberance so that the closure forms a seal with the

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protuberance. Roast and ground coffee is contained within the interior volume and, the article of manufacture has an overall coffee aroma value of at least about 5.5. (A method for measuring the overall coffee aroma value is described in the Test Methods section, *infra*.)

The purpose of the present invention, inventive method, and article of manufacture is to provide a useful benefit to the user that includes, but is not limited to, providing a roast and ground coffee with a perceived more fresh and aromatic flavor. Such a container system of the present invention also provides an easy to use and low cost means of delivery of a roast and ground coffee to an end user.

Preferably, but optionally, the container has a handle element disposed thereon. More preferably the handle element is integral with the body of the container. This handle element facilitates gripping of the container system by the end user. This gripping is particularly useful for users with small hands or hands in a weakened condition due to illness, disease, or other medical malady.

Optionally, but preferably, the present invention features a one-way valve located within the closure to release excess pressure built up within the container due to the natural off gas process of roast and ground coffee. It is also believed that changes in external temperature and altitude can also cause the development of pressure internal to the container. The one-way valve is selected to release coffee off gas in excess of a predetermined amount however, remains sealed after such a release, thereby retaining an aromatically pleasing amount of off gassed product within the container.

Another optional, but preferred, feature of the present invention is an overcap placed over the closure. The overcap can comprise a dome, or cavity, that allows positive, outward deformation of the closure due to the pressure build-up within the container. The overcap is preferably air tight and flexible to allow for easy application in manufacture, either with, or without, a closure, and by the end user, after end user removal, of a closure. A flexible overcap can also allow the end user to remove excess air by compressing the dome, thereby releasing excess ambient air from the previously open container (burping). However, the overcap can also exhibit less flexibility or be inflexible. The overcap also provides for a tight seal against the rim of the container after opening by the end user. This tight seal prevents pollution of the rim, resulting in an undesirable expectation of the overcap after application. The overcap can also optionally allow for stacking several container embodiments when the closure and the dome portion of the overcap are at a point of maximum deflection. The overcap also optionally has a vent to allow for easy removal of vented off gas product trapped between the closure and overcap assemblies, but still allows for "burping."

In a preferred embodiment, the overcap can have a rib disposed proximate to and along the perimeter of the overcap defining an inner dome portion and an outer skirt portion. The rib forms a hinge-like structure so that outward deflection of the inner dome portion caused by deflection of the closure due to coffee off gassing causes the rib to act as a cantilever for the skirt portion. Thus, outward deflection of the dome portion causes the skirt portion to deflect inwardly on an outer portion of the container wall, resulting in an improved seal characteristic and improves retaining forces of the overcap with respect to the container.

The Container

Referring to FIG. 1, fresh packaging system 10, generally comprises a container 11 made from a compound, for example, a polyolefin. Exemplary and non-limiting com-

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pounds and polyolefins that can be used for producing the present invention include polycarbonate, linear low-density polyethylene, low-density polyethylene, high-density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof. It should be realized by one skilled in the art that container 11 of the present invention can take any number of shapes and be made of any number of suitable materials. Container 11 generally comprises an open top 12, a closed bottom 13, and a body portion 14. Open top 12, closed bottom 13, and body portion 14 define an inner volume in which a product is contained. Also, closed bottom 13 and body portion 14 are formed from a material having a tensile modulus ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (44,230 atm), more preferably from at least about 40,000 pounds per square inch (2,721 atm) to at least about 260,000 pounds per square inch (17,692 atm), and most preferably ranging from at least about 95,000 pounds per square inch (6,464 atm) to at least about 150,000 pounds per square inch (10,207 atm). Tensile modulus is defined as the ratio of stress to strain during the period of elastic deformation (i.e., up to the yield point). It is a measure of the force required to deform the material by a given amount and is thus, a measure of the intrinsic stiffness of the material.

It is preferred that bottom portion 13 be disposed concave inwardly, or recessed, towards the inner volume so that undesirable deflections caused by pressure increases within the inner volume are minimized. If the bottom 13 expands outwardly sufficiently, causing the bottom 13 to concave outwardly, then the container 11 will develop what is generally referred to in the art as "rocker bottom." That is, if the bottom 13 deflects outwardly so that the container system 10 will not be stable while resting on a flat surface, fresh packaging system 10 will tend to rock back and forth.

As shown in FIG. 7A, a plurality of protrusions 40 can be disposed on the closed bottom 13 of container 11 about the longitudinal axis of container 11. In a preferred embodiment, protrusions 40 form an oblique angle with the closed bottom 13 of container 11. If the container 11 assumes a cylindrical shape, it is believed that protrusions 40 can be rectilinearly disposed about the diameter of the closed bottom 13 of container 11. However, one of skill in the art would realize that protrusions 40 could be disposed on the closed bottom 13 of container 11 in any geometrical arrangement. Without wishing to be bound by theory, it is believed that protrusions 40 can protrude past the geometry of the closed bottom 13 of container 11 upon an outward deflection of the closed bottom 13 of container 11. In this way container 11 can maintain a stable relationship with other surfaces should "rocker bottom" be realized upon the development of an outward pressure from within container 11. While the preferred embodiment utilizes four protrusions 40 disposed on closed bottom 13, it should be realized by one of skill in the art that virtually any number of protrusions 40 could be disposed on closed bottom 13 to yield a stable structure upon outward deflection of closed bottom 13. Additionally, protrusions 40 could be a square, triangular, elliptical, quadrilateral, pentagonal, trapezoidal, arranged in multiply nested configurations, provided in an annular ring about closed bottom 13, and combinations thereof.

Again referring to FIG. 7A, an annular ring 42, or any other raised geometry, including interrupted geometrical configurations, can be disposed on closed bottom 13 of container 11. Annular ring 42 could be dimensioned to facilitate nesting, or stacking, of multiple embodiments of containers 11. In other words, annular ring 42 could be

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designed to provide serial stacking of a container 11 onto the overcap 30 of the preceding, or lower, container 11. Without wishing to be bound by theory, it is believed that the facilitation of nesting by the use of annular ring 42 disposed on closed bottom 13 of container 11 provides enhanced structural stability.

It is also believed that the closed bottom 13 of container 11 could be designed, in what is known to those of skill in the art, as a quad lobe, or pentaloid. Again, without desiring to be bound by theory, it is believed that such a quad lobe, or pentaloid, design could provide enhanced ability to resist the deformation of closed bottom 13 of container 11 due to internal pressures developed within container 11.

Referring again to FIG. 1, container 11 can be cylindrically shaped with substantially smooth sides. Handle portions 15 are respectively formed in container body portion 14 at arcuate positions. A plurality of anti-slip strips 16 can be formed at a predetermined interval within handle portions 15. Handle portions 15 are formed as would be known to one skilled in the art to provide a gripping surface at a most efficacious position to enable users with small hands or debilitating injuries or maladies to grip container portion 11 with a minimum of effort. Further, container 11 can be readily grasped by hand due to the configuration described above. Additionally, container 11 can have a protuberance 17 in the form of a rim like structure disposed at the open end of container 11. Protuberance 17 can provide a surface with which to removably attach closure 18 and provide a locking surface for skirt portion 32 of overcap 30.

In an alternative embodiment as shown in FIG. 2, container 11a is parallelepiped shaped with substantially smooth sides. Handle portions 15a are respectively formed in container body portion 14a at arcuate positions. A plurality of gripping projections 16a are formed at a predetermined interval within handle portions 15a. Corresponding closure 18a and overcap 30a are fitted on container 11a as would be known to one skilled in the art.

In an alternative embodiment, as shown in FIG. 7, handle portions 15b can preferably be symmetrical. Without desiring to be bound by theory, it is believed that symmetrical handle portions 15b could prevent inversion of the handle portions 15b upon an increase in pressure from within container 11b. It is believed that symmetrically incorporated handle portions 15b provides for the uniform distribution of the internal pressure, developed within container 11, throughout handle portion 15b.

As is also shown in the alternative embodiment of FIG. 7, all portions of handle portions 15b are presented as either parallel to the longitudinal axis of container 11b or perpendicular to the longitudinal axis of container 11b. Without desiring to be bound by theory, it is believed that handle portions 15b, arranged to provide all component portions of handle portions 15b to be either parallel or perpendicular to the longitudinal axis of container 11b, could be less susceptible to bending forces due to internal pressures developed within container 11b. This could aid in the prevention of catastrophic failure of the container due to the pressures generated internally to container 11b.

Further, providing container 11b with handle portions 15b in a recessed configuration with respect to the body portion 14b of container 11b could require less force from the end user to maintain a firm grip on handle portions 15b of container 11b. Additionally, recessed handle portions 15b could aid in the prevention of an end user supplying extraneous force to the external portions of container 11b thereby causing catastrophic failure or deformation of container 11b.

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Referring again to FIG. 1, container 11 exhibits superior top load strength per mass unit of plastic. With the present invention, filled and capped containers can be safely stacked one upon another without concern that the bottom containers will collapse or be deformed. Often, containers are palletized, by which several containers are stacked in arrays that take on a cubic configuration. In the order of 60 cases, each weighing about 30 pounds (13.6 Kg) can be loaded onto a pallet. In certain instances, these pallets can be stacked one upon another. It will be appreciated that the bottommost containers will be subjected to extraordinary columnar forces. Traditionally, polymeric containers are not capable of withstanding such high column forces. Thus, to avoid collapsing or buckling of these stacking situations, the top load resistance of each container should be at least about 16 pounds (7.3 Kg) when the containers are in an ambient temperature and pressure environment. More preferably, each container should exhibit a top load resistance of at least about 48 pounds (21.8 Kg) in accordance with the present invention.

In the present invention, top load resistance is the amount of force an empty container can support prior to the occurrence of a deflection parallel to the longitudinal axis of the container of greater than 0.015 inches. By way of a non-limiting example, a cylindrical container comprising a laminate structure (as detailed infra), having an average overall mass of 39 grams, an average internal volume of approximately 950 cubic centimeters, an average wall thickness of approximately 0.030 inches, and an average diameter of approximately 100 millimeters is considered not to have a top load resistance greater than 16 pounds (7.3 Kg) when the container deflects more than 0.015 inches in a direction parallel to the longitudinal axis when a 16 pound load is placed thereupon. As is known to one of skill in the art, top load resistance can be measured using a suitable device such as an Instron, model 550R1122, manufactured by Instron, Inc., Canton, Mass. The Instron is operated in a compressive configuration with a 1000 pound load cell and a crosshead speed of 1.0 inch/minute. The load is applied to the container through a platen that is larger than the diameter of the subject container.

As shown in FIG. 7, the body portion 14b of container 11b can have at least one region of deflection 43 placed therein to isolate deflection of the container 11b due to either pressures internal to container 11b or pressures due to forces exerted upon container 11b. As shown, at least one region of deflection 43 could generally define rectilinear regions of container 11b defined by a cylindrical wall. However, one of skill in the art would realize that at least one region of deflection 43 incorporated into body portion 14b could assume any geometry, such as any polygon, round, or non-uniform shape. Without wishing to be bound by theory, it is believed that a purely cylindrical container 11b, having a uniform wall thickness throughout, will resist compression due to pressure exerted from within container 11b or external to container 11b. However, without desiring to be bound by theory, it is believed that when applied forces exceed the strength of the container wall of purely cylindrical container 11b, deflection could be exhibited in an undesirable denting or buckling. Any non-uniformities present in a purely cylindrical container 11b, such as variations in wall thickness, or in the form of features present, such as handle portions 15b, can cause catastrophic failure upon a differential pressure existing between regions external to container 11b and regions internal to container 11b.

However, the incorporation of at least one region of deflection 43 is believed to allow flexion within the body

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portion 14b of container 11b. Thus, it is believed that body portion 14b can deform uniformly without catastrophic failure and can resist undesirable physical and/or visual effects, such as denting. In other words, the volume change incurred by container 11b due to internal, or external, pressures works to change the ultimate volume of the container 11b to reduce the differential pressure and thus, forces acting on the container wall. It is also believed, without desiring to be bound by theory, that the incorporation of a solid or liquid, or any other substantially incompressible material, can provide substantial resistance to the inward deflection of at least one region of deflection 43. For example, the inclusion of a powder, such as roast and ground coffee, could provide resistance to the inward deflection of at least one region of deflection 43, thus enabling at least one region of deflection 43 to remain substantially parallel to the longitudinal axis of container 11b and thereby providing an effective increase in the top load capability of container 11b. The peelable laminate seal also deflects with external pressure changes further reducing the pressure load on the container.

In a non-limiting, but preferred embodiment, container 11b has at least one region of deflection 43 that can be presented in the form of rectangular panels. The panels have a radius that is greater than the radius of container 11b. The panels are designed to have less resistance to deflection than that of the region of container 11b proximate to the rectangular panels. Thus, any movement exhibited by the panels is isolated to the panels and not to any other portion of container 11b.

As shown in FIG. 1, without desiring to be bound by theory, it is believed that the chime should be sufficient to allow container 11 to compress under vacuum by adapting to have volume changes and will improve the top loading capability of container 11. However, it is further believed that the chime should be as small as is practicable as would be known to one of skill in the art.

As shown in FIG. 7, the body portion 14b of container 11b can also have at least one rib 45 incorporated therein. It is believed that at least one rib 45 can assist in the effective management of isolating the movement of at least one panel 43 by positioning at least one rib 45 parallel to the longitudinal axis of container 11b and proximate to at least one panel 43 in order to facilitate the rotational movement of at least one panel 43 upon an inward, or outward, deflection of at least one panel 43. Further, it is believed that at least one rib 45 can also provide added structural stability to container 11b in at least the addition of top load strength. In other words, at least one rib 45 could increase the ability of container 11b to withstand added pressure caused by the placement of additional containers or other objects on top of container 11b. One of skill in the art would be able to determine the positioning, height, width, depth, and geometry of at least one rib 45 necessary in order to properly effectuate such added structural stability for container 11b. Further, it would be known to one of skill in the art that at least one rib 45 could be placed on container 11b to be parallel to the longitudinal axis of container 11b, annular about the horizontal axis of container 11b, or be of an interrupted design, either linear or annular to provide the appearance of multiple panels throughout the surface of container 11b.

Additionally, container 11b can generally have a finish 46 incorporated thereon. In a preferred embodiment, the finish 46 is of an annular design that is believed can provide additional hoop strength to container 11b and surprisingly, can provide a finger well 44 to assist the user in removal of

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overcap 30. Further, it is possible for one of skill in the art to add ribs 47 to finish 46 in order to provide further strength to container 11b in the form of the added ability to withstand further top loading. In a preferred embodiment, ribs 47 are disposed parallel to the horizontal axis of container 11b and perpendicular to finish 46.

Referring to FIGS. 11 and 12, it was found that a container 11e provided with a protuberance 17a that is at least substantially outwardly facing from body portion 14 and substantially perpendicular to the longitudinal axis of container 11e can have less induced structural stress caused by a vacuum internal to container 11e in the junction 80 proximate to the interface of protuberance 17a and body portion 14. Without desiring to be bound by theory, it is believed that such forces exerted on an outwardly facing protuberance 17a would cause an increase in the radius of curvature of protuberance 17 with respect to body portion 14, thereby reducing the overall vacuum induced stresses on the container 11e. Reducing vacuum-induced stresses can facilitate producing container 11e with a smaller overall wall thickness.

In addition, it can be desirable for container 11e to be provided with at least a substantially outwardly facing protuberance 17a so that static vertical loads (TL) are transferred through the body portion 14 rather than through protuberance 17a. Without desiring to be bound by theory, it is believed that transferring the forces exerted by a load (TL) positioned on top of container 11e through body portion 14 rather than upon protuberance 17a can reduce overall stresses at junction 80 of protuberance 17a with body portion 14. This reduction in stresses at junction 80 can facilitate producing container 11e with a smaller overall wall thickness.

Further, container 11e can be combined with an overcap (not shown) that can substantially direct the forces exerted by a load to body portion 14 rather than to protuberance 17a. It is believed that any stress at junction 80 caused by a load positioned on top of container 11e having such an overcap (not shown) disposed thereon can be reduced because the deflection of the cantilevered protuberance 17a is restrained. This can result in lower concentrations of stress at junction 80.

Returning again to FIG. 1, the container 11 is preferably produced by blow molding a polyolefinic compound. Polyethylene and polypropylene, for example, are relatively low cost resins suitable for food contact and provide an excellent water vapor barrier. However, it is known in the art that these materials are not well suited for packaging oxygen-sensitive foods requiring a long shelf life. As a non-limiting example, ethylene vinyl alcohol (EVOH) can provide such an excellent barrier. Thus, a thin layer of EVOH sandwiched between two or more polyolefinic layers can solve this problem. Therefore, the blow-molding process can be used with multi-layered structures by incorporating additional extruders for each resin used. Additionally, the container of the present invention can be manufactured using other exemplary methods including injection molding and stretch blow molding.

In a preferred embodiment in accordance with the present invention, container 11 of FIG. 1, container 11a of FIG. 2, and container 11b of FIG. 7, can be blow molded from a multi-layered structure to protect an oxygen barrier layer from the effects of moisture. In a preferred embodiment, this multi-layered structure can be used to produce an economical structure by utilizing relatively inexpensive materials as the bulk of the structure.

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Another exemplary and non-limiting example of a multi-layered structure used to manufacture the container of the present invention would include an inner layer comprising virgin polyolefinic material. The next outward layer would comprise recycled container material, known to those skilled in the art as a "regrind" layer. The next layers would comprise a thin layer of adhesive, the barrier layer, and another adhesive layer to bind the barrier layer to the container. The final outer layer can comprise another layer of virgin polyolefinic material.

A further exemplary and non-limiting example of a multi-layered structure used to manufacture the container of the present invention would include an inner layer comprising virgin polyolefinic material. The next layers would comprise a thin layer of adhesive, the barrier layer, and another adhesive layer to bind the barrier layer to the container. The next outward layer would comprise recycled container material, known to those skilled in the art as a "regrind" layer. The final outer layer can comprise another layer of virgin polyolefinic material. In any regard, it should be known to those skilled in the art that other potential compounds or combinations of compounds, such as polyolefins, adhesives and barriers could be used. Further, an oxygen scavenger can be incorporated into, or on, any layer of a multi-layered structure to remove any complexed or free oxygen existing within a formed container. Such oxygen scavengers can include oxygen scavenging polymers, complexed or non-complexed metal ions, inorganic powders and/or salts, and combinations thereof, and/or any compound capable of entering into polycondensation, transesterification, transamidization, and similar transfer reactions where free oxygen is consumed in the process.

Other such materials and processes for container formation are detailed in *The Wiley Encyclopedia of Packaging Technology*, Wiley & Sons (1986), herein incorporated by reference. Preferably, the inner layer of containers 11, 11a, and 11b are constructed from high-density polyethylene (HDPE).

A preferred polyolefinic, blow molded container in accordance with the present invention can have an ideal minimum package weight for the round containers of FIGS. 1 and 7, or the parallelepiped container of FIG. 2, and yet still provide the top load characteristics necessary to achieve the goals of the present invention. Exemplary materials (low-density polyethylene (LDPE), high density polyethylene (HDPE) and polyethylene terephthalate (PET)) and starting masses of these compounds that provide sufficient structural rigidity in accordance with the present invention are detailed in Table 1 below.

TABLE 1

Package Shape and Weight For a Given Material and a Defined Top Load (Empty) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/atm)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Parallelepiped	LDPE (40,000/2,721)	79 grams	146 grams
Parallelepiped	HDPE (98,000/6,669)	66 grams	123 grams
Parallelepiped	PET (600,000/40,828)	40 grams	74 grams
Round	LDPE (40,000/2,721)	51 grams	95 grams

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TABLE 1-continued

Package Shape and Weight For a Given Material and a Defined Top Load (Empty) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/atm)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Round	HDPE (98,000/6,669)	43 grams	80 grams
Round	PET (600,000/40,828)	26 grams	48 grams

It was surprisingly found that a container in accordance with the present invention that is filled with product and sealed to contain the final product has enhanced properties for the same starting compound weight. This provides a benefit in that it is now possible to use less starting material to provide the top load values in accordance with the present invention. Exemplary materials and starting masses of compounds (LDPE, HDPE, and PET) providing the necessary structural rigidity of a filled and sealed container in accordance with the present invention are detailed in Table 2.

TABLE 2

Package Shape and Weight For a Given Material and a Defined Top Load (Filled) for a Nominal 3.0 L Container			
Package Configuration	Package Material & Tensile Modulus (psi/atm)	Package Weight 35 lb. Top Load (grams)	Package Weight 120 lb. Top Load (grams)
Parallelepiped	LDPE (40,000/2,721)	72 grams	134 grams
Parallelepiped	HDPE (98,000/6,669)	61 grams	112 grams
Parallelepiped	PET (600,000/40,828)	37 grams	58 grams
Round	LDPE (40,000/2,721)	47 grams	87 grams
Round	HDPE (98,000/6,669)	39 grams	73 grams
Round	PET (600,000/40,828)	24 grams	44 grams

Again referring to FIG. 1, protuberance 17, in the form of a rim like structure, disposed at the open end of container 11 may have textured surfaces disposed thereon. Textured surfaces disposed on protuberance 17 can comprise raised surfaces in the form of protuberances, annular features, and/or cross-hatching to facilitate better sealing of removable closure 19. Exemplary, but non-limiting, annular features may include a single bead or a series of beads as concentric rings protruding from the seal surface of protuberance 17. While not wishing to be bound by theory, it is believed that a textured surface on protuberance 17 can allow for the application of a more uniform and/or concentrated pressure during a sealing process. Textured surfaces can provide increased sealing capability between protuberance 17 and removable closure 19 due to any irregularities introduced during molding, trimming, shipping processes and the like during manufacture of container 11.

The Removable Closure

Again referring to FIG. 1, fresh packaging system 10 comprises a closure 18 that is a laminated, peelable seal 19 that is removably attached and sealed to container 11. Peelable seal 19 has a hole beneath which is applied a

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degassing valve, indicated as a whole by reference number 20. One-way valve 20 can be heat welded or glued to peelable seal 19.

In a preferred embodiment according to FIG. 3, the interior of peelable seal 19 to the outer side of peelable seal 19 is a laminate and comprises, in sequence, an inner film 21, such as polyethylene, a barrier layer 22, such as a metallized sheet, preferably metallized PET, metallized PE, or aluminum, and an outer film of plastic 23, such as PET. Inner film 21 is preferably formed from the same material as the outer layer of container 11. Thus, inner film 21 is preferably a polyolefin, and more preferably polyethylene (PE). Plastic outer film 23 is preferably produced from a material such as polyester. However, one skilled in the art would realize that other materials, such as a foil closure, and other stretchable and non-stretchable layer structures can be used and still remain within the scope of the present invention. Additionally, an oxygen scavenger, as described supra, can be incorporated into, or on, any layer of peelable seal 19 to remove free, or complexed, oxygen.

Both inner film 21 and barrier layer 22 are perforated, preferably by means of cuts, pricks, or stampings, to form flow opening 24, as shown in FIG. 3. In the area above the outlet opening, outer film 23 is not laminated to barrier layer 22, thereby forming longitudinal channel 25. Channel 25 extends the entire width of the laminate so that during manufacture, channel 25 extends to the edge of closure 18.

As a result, a very simple and inexpensive one-way valve 20 is formed by means of the non-laminated area of outer film 23 and outlet opening 24. The gases produced by the contents within container 11 may flow through valve 20 to the surrounding environment. Since an overpressure exists in container 11, and since outer film 23 usually adheres or at least tightly abuts barrier layer 22 because of the inner pressure, unwanted gases, such as oxygen, are prevented from flowing into container 11 and oxidizing the contents. Thus, outer film 23 serves as a membrane that must be lifted by the inner gas pressure in the packing in order to release gas. It is preferred that one-way valve 20 respond to pressures developed within container 11. This pressure can exceed 10 millibars, and preferably exceed 15 millibars, and more preferably would exceed 20 millibars, and most preferably, exceed 30 millibars.

Additionally, a small amount of liquid can be filled into channel 25. The liquid can be water, silicone-based oils, or oil treated with an additive so that the oil is prevented from becoming rancid prior to use of the product. The pressure at which the release of internal off-gas from container 11 occurs can be adjusted by varying the viscosity of the liquid within channel 25.

In an alternative, but non-limiting, embodiment, a one-way degassing valve can comprise a valve body, a mechanical valve element, and a selective filter as described in U.S. Pat. No. 5,515,994, herein incorporated by reference.

Returning to FIG. 1, Closure 18 is preferably sealed to container 11 along a rim (protuberance) 17 of container 11. Preferable, but non-limiting, methods of sealing include a heat sealing method incorporating a hot metal plate applying pressure and heat through the closure material and the container rim, causing a fused bond. The peel strength achieved is generally a result of the applied pressure, temperature, and dwell time of the sealing process. However, it should be known to one skilled in the art, that other types of seals and seal methods could be used to achieve a bond with sufficient and effective seal strength, including, but not limited to, a plurality of annular sealing beads disposed on rim 17.

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Alternatively, if protuberance 17 is provided in at least a substantially outwardly facing orientation from body portion 14 and substantially perpendicular to the longitudinal axis of container 10, protuberance 17 can be supported during the sealing process. Providing support in this manner can allow for a seal to be applied in less overall time through the use of higher temperature and pressure than would be possible if the flange were unsupported. It is also believed that supporting protuberance 17 during the sealing process can result in a higher quality seal, provide less variation in the seal, and provide a more consistent peel force. It is also believed that supporting protuberance 17 during a sealing process can reduce the time necessary to provide such seals resulting in lower production costs.

As shown in FIG. 8, in an alternative embodiment, peelable seal 19c of container 11c can include a pivotable pouring device 50. Pivotable pouring device 50 can be placed at any location on peelable seal 19a or at any position on container 11c. In a preferred embodiment, it is also believed that pivotable pouring device 50 could be disposed on a non-peelable seal located under peelable seal 19c in the interior volume of container 11c. This could enable a user to remove peelable seal 19c, exposing the non-peelable seal having the pivotable pouring device 50 disposed thereon. The user could then pivot the pivotable pouring device 50 to dispense a product contained within container 11c. After dispensing the product from container 11c via pivotable pouring device 50, the user could pivot the pivotable pouring device 50 to effectively close non-peelable seal, thereby effectively sealing container 11c. As would be known to one of skill in the art, exemplary, but non-limiting, examples of pivotable pouring device 50 include pouring spouts. It is believed that pivotable pouring device 50 could have dimensions that facilitate the flow of product from container 11c, as would be known to one of skill in the art. A depression, slot, or other orifice can be disposed on either peelable seal 19c or the non-peelable seal to facilitate insertion of a user's appendage or other device to aid in the application of force necessary to pivot pivotable pouring device 50.

In the alternative embodiment of FIG. 8a, a striker bar 52, formed from either a portion of peelable seal 19d or a non-peelable seal, can be used to strike off excess product from a volumetric measuring device. Without wishing to be bound by theory, it is believed that striker bar 52 could facilitate more consistent measurements of product by increase the packing density and volume present within the volumetric measurement device. Further, it is believed that the presence of the remainder of peelable seal 19d or a non-peelable seal can assist in the retention of the various aromatic and non-aromatic gases that naturally evolve from a product held within container 11d.

The Overcap

Referring to FIG. 1, fresh packaging system 10 optionally comprises an overcap 30 comprised of dome portion 31, skirt portion 32, rib 33, and optionally vent 34. As a non-limiting example, overcap 30 is generally manufactured from a plastic with a low flexural modulus, for example, linear low-density polyethylene (LLDPE), low-density polyethylene (LDPE), high-density polyethylene (HDPE), polyethylene (PE), polypropylene (PP), linear low-density polyethylene (LLDPE), polycarbonate, polyethylene terephthalate (PET), polystyrene, polyvinyl chloride (PVC), copolymers thereof, and combinations thereof. This allows for an overcap 30 that has a high degree of flexibility, yet, can still provide sufficient rigidity to allow stacking of successive containers. By using a flexible overcap 30, mechanical

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application during packaging, as well as re-application of overcap 30 to container 11 after opening by the consumer is facilitated. A surprising feature of a flexible overcap 30 is the ability of the end user to "burp" excess atmospheric gas from container 11 thereby reducing the amount of oxygen present. Further, an oxygen scavenger, as described supra, can be incorporated into, or on, any layer of peelable seal 19 to remove free, or complexed, oxygen. Additionally, the desired balance of flexibility and rigidity exhibited by overcap 30 is to varying the thickness profile of the overcap 30. For example, the dome portion 31 can be manufactured to be thinner than skirt portion 32 and rib 33.

Dome portion 31 is generally designed with a curvature, and hence height, to accommodate for an outward displacement of closure 18 from container 11 as a packaged product, such as roast and ground coffee, off gases. The amount of curvature needed in dome portion 31 can be mathematically determined as a prediction of displacement of closure 18. As a non-limiting example, a nominal height of dome portion 31 can be 0.242 inches (0.61 cm) with an internal pressure on closure 18 of 15 millibars for a nominal 6-inch (15.25 cm) diameter overcap. Further, the dome portion 31 is also generally displaceable beyond its original height as internal pressure rises in container 11, causing closure 18 to rise prior to the release of any off gas by one-way valve 20.

As shown in the exemplary embodiment of FIG. 9A, stand-off 67 can be provided on the underside of overcap 30b to facilitate the release of an off gas that may be present within a container. In this way, stand-off 67 can prevent blockage of a valve disposed on and/or within a flexible film closure by lower portion 65 of overcap 30b by reducing the amount of contact of the valve with lower portion 65. Stand-off 67 can be constructed in various designs including, but not limited to a singular, or plurality of, arcuate forms, circles, rectangles, lines, and combinations thereof. Preferably, a circular stand-off 67 is positioned in a region central to lower portion 65 of overcap 30b. It is believed that stand-off 67 can also facilitate the venting of gasses internal to a container. Another such exemplary stand-off 67 is shown in FIG. 13 as a plurality of annular sections 68, wherein each annular section 68 is provided with an opening 69 wherein the plurality of openings 69 provides a path for venting of gasses internal to container 11.

Referring to FIG. 4, overcap 30 comprises a rib 33. Rib 33 protrudes outwardly from the generally planar dome portion 31 and serves as a physical connection between dome portion 31 and skirt 32. Generally, skirt 32 has a hook shape for lockingly engaging protuberance 17 of container 11. Rib 33 isolates skirt 32 from dome portion 31, acting as a cantilever hinge so that outward deflections (O) of dome portion 31 are translated into inward deflections (I) of skirt 33. This cantilevered motion provides for an easier application of overcap 30 to container 11 and serves to effectively tighten the seal under internal pressures.

Additionally, rib 33 can allow for successive overcaps to be stacked for shipping. Skirt 32 preferably has a flat portion near the terminal end to allow for nesting of successive overcaps. Furthermore, rib 33 can extend sufficiently away from dome portion 31 so that successive systems may be stacked with no disruption of the stack due to a maximum deflection of closure 18 and the dome portion 31 of overcap 30. Without desiring to be bound by theory, it is believed that the downward load force rests entirely on rib 33 rather than across dome portion 31. Resting all downward forces on rib 33 also protects closure 18 from a force opposing the outward expansion of closure 18 from container 11 due to the off gas generated by a contained product.

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As shown in FIG. 5, an exploded view of the region around rib 33, dome portion 31 correspondingly mates with protuberance 17 of container 11. As a non-limiting example, container 11, after opening, requires replacement of overcap 30. A consumer places overcap 30 on container 11 so that an inside edge 34 of rib 33 contacts protuberance 17. A consumer then applies outward pressure on skirt 32 and downward pressure on dome portion 31, expectorating a majority of ambient air entrapped within the headspace of container 11. As shown in FIG. 6, the inside edge 34 of rib 33 then fully seats on protuberance 17, producing a complete seal. In a non-limiting example, protuberance 17 varies from -5° to $+5^{\circ}$ from a line perpendicular to body 14. Inside edge 34 is designed to provide contact with protuberance 17 for this variation. As another non-limiting example, overall travel of the inside edge 34 of rib 33 has been nominally measured at three millimeters for a protuberance 17 width of four to six millimeters. It has been found that when protuberance 17 is angularly disposed, protuberance 17 forms a sufficient surface to provide for sealing adhesive attachment of closure 18 to protuberance 17.

Additionally, the inside edge 34 of rib 33 can effectively prevent the pollution of protuberance 17, with or without closure 18 in place, thereby providing a better seal. As pressure within container 11 builds due to off gas from the entrained product, dome portion 31 of overcap 30 deflects outward. This outward deflection causes the inside edge 34 of rib 33 to migrate toward the center of container 11 along protuberance 17. This inward movement results in a transfer of force through rib 33 to an inward force on skirt portion 32 to be applied to container wall 14 and the outer portion of protuberance 17, resulting in a strengthened seal. Additionally, significant deflections of dome 31 due to pressurization of closure 18 causes the inside edge 34 to dislocate from protuberance 17 allowing any vented off gas to escape past protuberance 17 to the outside of overcap 30. This alleviates the need for a vent in overcap 30.

As shown in FIG. 9, in an alternative embodiment of overcap 30b comprises a plurality of nested cylindrical formations. In other words, in this alternative embodiment, the base of overcap 30b, having a diameter, d, forms a base portion 60 upon which the upper portion 62 of overcap 30b, having a diameter, d- Δ d, is disposed thereon. The upper portion 62 of overcap 30b can have an annular protuberance 64 disposed thereon. It is believed that the annular protuberance 64 disposed upon the upper portion 62 of overcap 30b can provide a form upon which annular ring 42 disposed upon closed bottom 13, can lockably nest.

In another embodiment, it has been found advantageous to limit Δ d. A small Δ d can result in the connecting wall 63 of overcap 30b being proximate to protuberance 17. Providing a small Δ d in this manner can facilitate the transfer of a force exerted by a load disposed upon overcap 30 to an attached container during storage and shipping.

As shown in FIGS. 9a and 10, in an alternative embodiment, the inner surface of the base portion 60 of overcap 30b can have an annular sealing ring 66 disposed thereon. Annular sealing ring 66 was surprisingly found to facilitate the mating of surfaces corresponding to annular sealing ring 66 and the finish portion of container 11. Mating the surfaces in this manner can provide an audible recognition that both surfaces have made contact and that a secure seal between protuberance 17 and the internal surface of overcap 30b has been made. A surprising feature of overcap 30b is the ability of the end user to "burp" excess atmospheric gas from container 11 thereby reducing the amount of oxygen present. Further, it is believed that an inner surface of base portion 60

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mate with at least a portion of protuberance 17 so that there is provided an overlap of the inner surface of base portion 60 with protuberance 17. One of skill in the art would realize that any configuration of the annular sealing ring 66 may be used to provide the facilitation of the corresponding mating surfaces, including, but not limited to, interrupted annular rings, a plurality of protuberances, and combinations thereof. It is also believed that providing a protuberance 69 in the form of an annular ring, plurality of protuberances, and other protuberances known to one of skill in the art, can provide a method of stacking a plurality of overcaps 30b prior to overcap 30b being applied to a container.

As shown in FIG. 9a, it was surprisingly found that a plurality of protuberances 68 disposed upon the inner surface of overcap 30b could facilitate the replacement of overcap 30b upon container 11. In this manner, it is believed that the plurality of protuberances 68 disposed upon the inner surface of overcap 30b can effectively translate the horizontal component of a force applied to overcap 30b during replacement of overcap 30b upon container 11 through the plurality of protuberances 68 thereby allowing the plurality of protuberances 68 to effectively traverse over the edge of container 11 and ultimately aligning the longitudinal axis of overcap 30b with the longitudinal axis of container 11. Further, a plurality of protuberances 68 disposed upon the inner surface of overcap 30b can also provide additional structural rigidity to overcap 30b and can increase the transfer efficiency of a force exerted by a load disposed upon overcap 30b to container 11. It would be realized by one of skill in the art that the plurality of protuberances 68 could comprise a plurality of spherical, semi-spherical, elliptical, quarter-round, and polygonal projections, indentations, and combinations thereof.

In an alternative embodiment as shown in FIG. 13, container 11f can be provided with at least one secondary protuberance 74 disposed upon body portion 14. In this way, overcap 30c can be provided with an elongate skirt portion 72 with annular sealing ring 66a disposed thereon. Thus, annular sealing ring 66a can be removably engaged with secondary protuberance 74 to provide a better engagement of overcap 30c to container 11f. Without desiring to be bound by theory, it is believed that a container 11f provided with a protuberance 17a will exhibit a rotational movement about axis 76 due to a vacuum internal to container 11f and/or a load disposed upon protuberance 17a thereby causing protuberance 17a to move away from overcap 30c. Thus, providing secondary protuberance 74 along body portion 14 away from axis 76 can provide a point of interaction between overcap 30c and container 11f that is subject to less movement. Secondary protuberance 74 can be provided as an annular ring, a plurality of individual protuberances or a plurality of collectively elongate protuberances. Elongate skirt portion 72 can be provided as an annular protuberance or a collectively annular plurality of separable segments. Further, elongate skirt portion 72 can be provided in any length to facilitate attachment of overcap 30c to secondary protuberance 74 disposed upon body portion 14.

Coffee Packaging

A preferred method of packaging a whole, roast coffee in accordance with the present invention to provide a more freshly packed coffee product, is detailed herein.

A whole coffee bean is preferably blended and conveyed to a roaster, where hot air is utilized to roast the coffee to the

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desired degree of flavor development. The hot roasted coffee is then air-cooled and subsequently cleaned of extraneous debris.

In a preferred, but non-limiting step, a whole roast coffee is cracked and normalized (blended) before grinding to break up large pieces of chaff. The coffee is then ground and cut to the desired particle size for the grind size being produced. The ground coffee then preferably enters a normalizer that is connected to the bottom of the grinder heads. In the normalizer, ground coffee is preferably slightly mixed, thus, improving the coffee appearance. As another non-limiting step, the coffee discharges from the normalizer and passes over a vibrating screen to remove large pieces of coffee.

The ground coffee is then preferably sent to a filler surge hopper and subsequently to a filling apparatus (filler). The filler weighs a desired amount of coffee into a bucket that in turn, dumps the pre-measured amount of coffee into a container manufactured as detailed supra. The container is then preferably topped-off with an additional amount of coffee to achieve the desired target weight.

The container is then preferably subjected to an inert gas purge to remove ambient oxygen from the container headspace. Non-limiting, but preferred, inert gases are nitrogen, carbon dioxide, and argon. Optionally, an oxygen scavenger, as described supra, and generally present in the form of a packet can be included within the container to provide removal of free or complexed oxygen. A closure, as disclosed supra, is placed on the container to effectively seal the contents from ambient air. Preferably the closure has a one-way valve disposed thereon. An overcap, disclosed supra, is then applied onto the container, effectively covering the closure and locking into the container sidewall ridge. The finished containers are then packed into trays, shrink wrapped, and unitized for shipping.

Freshness

It is believed that the resulting inventive packaging system provides a consumer with a perceptively fresher packed roast and ground coffee that provides a stronger aroma upon opening of the package and the perception of a longer-lasting aroma that is apparent with repeated and sustained openings of the packaging system. Not wishing to be bound by any theory, it is believed that roast and ground coffee elutes gases and oils that are adsorbed onto the polyolefinic compound comprising the inside of the container and closure. Upon removal of the closure, the polyolefinic compound then evolves these adsorbed gases and oils back into the headspace of the sealed container. It is also believed that the inventive packaging system can also prevent the infiltration of deleterious aromas and flavors into the packaging system. Thus, the construction of the instant packaging system can be altered to provide the benefit of most use for the product disclosed therein. To this end, it is further believed that the packaging system can be utilized for the containment of various products and yet provide the benefits discussed herein.

Applicants characterize the surprising aroma benefits provided by the present article of manufacture in terms of the article's "overall coffee aroma value", which is an absolute characterization. Applicants also characterize the aroma benefits relative to a control article (a prior art metallic can, as described below). Such a characterization is referred to herein as the article's "differential coffee aroma value". The methods for measuring overall coffee aroma value and differential coffee aroma value are described in detail in the Test Method section infra.

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The article of manufacture will have an overall coffee aroma value of at least about 5.5. Preferably, the article will have an overall coffee aroma value of least about 6, more preferably at least about 6.5, still more preferably at least about 7, and still more preferably at least about 7.5.

Preferably, the article of manufacture of the present invention will have a differential coffee aroma value of at least about 1.0, more preferably at least about 2.0, and most preferably at least about 2.8.

Test Method

A test container and an existing industry-standard metallic container (control container) are packed with identical fresh roast and ground coffee product, prepared as stated above, and stored for 120 days prior to testing. Immediately prior to testing, the containers are emptied and wiped with a paper towel to remove excess roast and ground coffee product. Each container is then capped and let stand prior to testing in order to equilibrate. During testing, each container used is exchanged with another similarly prepared, but, unused container at one-hour intervals. A control container is a standard 603, tin-plated, 3-pound (1.36 Kg), vacuum-packed, steel can.

Individual panelists are screened for their ability to discriminate odors utilizing various standard sensory methodologies as part of their sensory screening. Panelists are assessed for aroma discriminatory ability using the gross olfactory acuity-screening test (universal version) as developed by Sensonics, Inc., for aroma. This test method involves a potential panelist successfully identifying aromas in a "scratch and sniff" context.

Forty successful, qualified panelists are then blindfolded and each evaluates a test container and a control container. Each blindfolded panelist smells a first container (either test container or control container) and rates the aroma on a 1 to 9 point scale (integers only) with reference to the following description: no aroma (1) to a lot of aroma (9). After a brief relief period, the blindfolded panelist evaluates the second container. The range for overall aroma is again assessed by panelists using the same rating system.

The panel results for overall coffee aroma value are then tabulated and statistically evaluated. Standard deviations based on a Student T statistical test are calculated with 95% confidence intervals to note where statistically significant differences occur between the mean values of the two products tested. Exemplary and statistically adjusted results of a "blind test" panel using existing packaging methodologies for roast and ground coffee are tabulated in Table 3, as follows:

TABLE 3

Roast and Ground Coffee Sensory Panel Results for Comparing Inventive Articles vs. Existing Articles at 120 days at 70° F. (21° C.)		
No. Respondents	Inventive Package (Plastic)	Standard Steel Package (Control)
Amount of Coffee Aroma	7.3	4.5

Based upon this test panel, it was surprisingly found that the present articles of manufacture provide a perceived "fresher" roast and ground coffee end product for a consumer. The improvement in overall coffee aroma was increased from the control sample adjusted panel value of

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4.5 to an adjusted panel value of 7.3 for the inventive article, resulting in a differential-adjusted value of 2.8.

While particular embodiments of the present invention have been illustrated and described, it will be obvious to those skilled in the art that various changes and modifications may be made without departing from the spirit and scope of the invention. One skilled in the art will also be able to recognize that the scope of the invention also encompasses interchanging various features of the embodiments illustrated and described above. Accordingly, the appended claims are intended to cover all such modifications that are within the scope of the invention.

What is claimed is:

1. A packaging system comprising:
a blow-molded container comprising a longitudinal axis, said blow-molded container further comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said top; wherein said bottom, top, and body together define an interior volume wherein said body has at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;
an outwardly facing annular protuberance disposed upon said body, said annular protuberance being continuously disposed around said perimeter of said body proximate to said top wherein said protuberance forms a surface external to said body, said surface being substantially perpendicular to said longitudinal axis; and,
a flexible closure removably attached and sealed to said annular protuberance;
wherein coffee is contained within said packaging system.
2. The packaging system of claim 1 wherein said flexible closure comprises a laminate structure, said laminate structure comprising at least one barrier layer.
3. The packaging system of claim 2 wherein said laminate further comprises a foil.
4. The packaging system of claim 1 wherein said flexible closure has a one-way valve disposed thereon.
5. The packaging system of claim 1 wherein said blow-molded container comprises a material selected from the group consisting of polycarbonate, linear low density polyethylene, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.
6. The packaging system of claim 5 wherein said material is a multi-layered structure.
7. The packaging system of claim 6 wherein said multi-layered structure further comprises at least one oxygen barrier layer.
8. The packaging system of claim 1 wherein said body has a handle disposed thereon.
9. The packaging system of claim 8 wherein said handle is integral with said body.
10. The packaging system of claim 8 wherein said handle is substantially parallel to said longitudinal axis of said container.
11. The packaging system of claim 1 further comprising an overcap.
12. The packaging system of claim 11 wherein said overcap is constructed from a material selected from the group consisting of polycarbonate, linear low density polyethylene, low density polyethylene, high density polyethyl-

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ene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.

13. The packaging system of claim 11 wherein said overcap further comprises a first protuberance disposed upon said overcap, said protuberance being matingly engageable with a second protuberance disposed upon said body of said container, wherein said overcap is releasably attached to said container upon the mating engagement of said first and second protuberances.

14. The packaging system of claim 11, wherein said overcap comprises a dome portion, said dome portion comprising a first surface, said first surface having at least one protuberance disposed thereon.

15. The packaging system of claim 1 wherein said coffee is roast and ground.

16. The packaging system of claim 1, wherein said closed bottom of said container is concave inwardly.

17. A packaging system comprising:

a blow-molded container comprising a longitudinal axis, said blow-molded container further comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said top; wherein said bottom, top, and body together define an interior volume, wherein said body has at least one

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region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;

an outwardly facing annular protuberance disposed upon said body, said annular protuberance being continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a surface external to said body, said surface being substantially perpendicular to said longitudinal axis; and

a flexible closure removably attached and sealed to said annular protuberance;

wherein said annular protuberance translates the force of a load of at least about 16 pounds disposed upon said packaging system in a direction substantially parallel to said longitudinal axis and

wherein coffee is contained within said packaging system.

18. The packaging system of claim 17 wherein said blow-molded container is manufactured from a material having a tensile modulus ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (4,230 atm).

* * * * *

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN**

KRAFT FOODS HOLDINGS, INC.,

Plaintiff,

v.

THE PROCTER & GAMBLE COMPANY,

Defendant.

Case No. 07C0613S

THE PROCTER & GAMBLE COMPANY,

Counterclaim Plaintiff

v.

KRAFT FOODS HOLDINGS, INC.

Counterclaim Defendant

and

KRAFT FOODS GLOBAL, INC.

Third-Party Defendant

**THE PROCTER & GAMBLE COMPANY'S INITIAL DISCLOSURES
PURSUANT TO FED. R. CIV. P. 26(a)(1)**

Pursuant to Rule 26(a)(1) of the Federal Rules of Civil Procedure and the Court's Preliminary Pre-Trial Conference Order dated November 27, 2007, Defendant The Procter & Gamble Company ("P&G") respectfully submits the following initial disclosure of information. These disclosures are based upon the information reasonably available to P&G at this time. P&G's investigation is on-going. As discovery progresses, P&G reserves the right to revise, clarify, or supplement these disclosures pursuant to Rule 26(e)(1) of the Federal Rules of Civil

Procedure or any other applicable rule. Information or materials protected by the attorney-client privilege and/or work product doctrine will not be disclosed as part of these initial disclosures. P&G reserves the right to object to the production and/or introduction of evidence of these disclosures and/or any document within the categories described below as well as to any testimony by any of the disclosed witnesses on the basis of competency, privilege, relevancy, materiality, hearsay, undue burden, or any other proper ground.

A. The name, and if known, the address and telephone number of each individual likely to have discoverable information that the disclosing party may use to support its claims or defenses, unless solely for impeachment, identifying the subjects of the information.

Except as otherwise noted, all of the individuals with a “*” next to their name are current or former employees, consultants, attorneys or agents of P&G and should be contacted only through P&G’s counsel of record in this litigation, Howrey LLP, 4 Park Plaza, Suite 1700 Irvine, California 92614 at (949) 721-6900.

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(conception, patent prosecution, infringement of P&G's patent; design of P&G's overcap; non-infringement and invalidity of Kraft's patent)
 12. *Kerry Lloyd Weaver
(conception, patent prosecution, infringement of P&G's patent; design of P&G's overcap; non-infringement and invalidity of Kraft's patent)
 13. *Thomas James Manske, Jr.
(conception, patent prosecution, infringement of P&G's patent; design of P&G's overcap; non-infringement and invalidity of Kraft's patent)
 14. *James David Smith
(conception, patent prosecution, infringement of P&G's patent; non-infringement and invalidity of Kraft's patent)
 15. *James Lee Bono
(conception, patent prosecution, infringement of P&G's patent; design of P&G's overcap; non-infringement and invalidity of Kraft's patent)
 16. *Sameer Munger
(conception, patent prosecution, infringement of P&G's patent; design of P&G's overcap; non-infringement and invalidity of Kraft's patent)

17. *Douglas Bruce Zeik
(conception, patent prosecution, infringement of P&G's patent; design of P&G's overcap and valve; non-infringement and invalidity of Kraft's patent)
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19. *Jennifer Floyd
(conception, patent prosecution, infringement of P&G's patent; non-infringement and invalidity of Kraft's patent)
20. *Gerard Buisson
(infringement of P&G's patent; non-infringement and invalidity of Kraft's patent)
21. *Nancy Lakes
(competitive analysis of Kraft's Maxwell House coffee products)
22. *Todd Roe
(harm caused to P&G by Kraft's infringement)
23. *Jason Gemeiner
(harm caused to P&G by Kraft's infringement)
24. *Edward Bello
(harm caused to P&G by Kraft's infringement)
25. *Rudy Schmeller
(harm caused to P&G by Kraft's infringement)
26. *Sue Mills
(harm caused to P&G by Kraft's infringement)

P&G anticipates that as discovery progresses, it will identify additional witnesses from documents produced by the parties in this case, and/or in response to interrogatories.

B. A copy of, or a description by category and location of, all documents, data compilations, and tangible things that are in the possession, custody, or control of the party and that the disclosing party may use to support its claims or defenses, unless solely for impeachment.

1. P&G's patent and non-privileged documents related to the prosecution of its patent.

2. Documents and things that disclose the structure of P&G's Folgers plastic coffee containers accused of infringement. At this time, Plaintiff Kraft Foods Holding, Inc. ("Kraft") has not identified specific product(s) that allegedly infringe its patent.

3. Documents and things that may constitute relevant prior art to Kraft's patent, including prior art upon which P&G may rely to show that one or more of the claims of Kraft's patent are invalid and/or unenforceable.

4. Documents and things related to Kraft's infringing plastic coffee container.

5. Documents and things related to P&G's testing of Kraft's infringing plastic coffee container.

6. Documents related to the harm that Kraft's infringement caused P&G.

7. Preliminary Infringement Contentions regarding U.S. Patent 7,169,419, attached hereto as Exhibit A.

These categories of documents are currently located at:

The Procter & Gamble Company
6300 Center Hill Avenue
Cincinnati, OH 45224
(513) 983-3000

Or P&G's counsel of record in this litigation:

Howrey LLP
4 Park Plaza, Suite 1700
Irvine, California 92614
(949) 721-6900

P&G will make available for inspection and copying the documents it has in its possession, custody or control. Some of these documents, data compilations, and tangible things contain or embody proprietary and confidential financial and technical information about P&G and its technology; such documents will be made available only under the terms of an appropriate Protective Order. Until such Protective Order is in place, documents will be made available under the interim "eyes only" designation provided for by Judge Shabaz's November

27, 2007 Preliminary Pre-Trial Conference Order. P&G anticipates that as discovery progresses, it will identify additional documents in this case upon which it may rely. In addition, P&G may rely on documents that Kraft produces.

- C. A computation of any category of damages claimed by the disclosing party, making available for inspection and copying as under Rule 34 the documents or other evidentiary material, not privileged or protected from disclosure, on which such computation is based, including materials bearing on the nature and extent of injuries suffered.**

Until P&G obtains discovery from Kraft, it cannot compute specific categories of damages. At a minimum, P&G seeks a reasonable royalty based on Kraft's gross revenue from the sale of infringing products.

- D. For inspection and copying as under Rule 34 any insurance agreement under which any person carrying in an insurance business may be liable to satisfy part or all of a judgment which may be entered in the action or to indemnify or reimburse for payment made to satisfy the judgment.**

None applicable.

DATED: December 10, 2007

Respectfully submitted,

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Exhibit A:

**P&G's Preliminary Infringement Contentions
Regarding U.S. Patent 7,169,419**



**Exhibit A: P&G's Preliminary Infringement Contentions
Regarding U.S. Patent 7,169,419**

U.S. Patent No. 7,169,419	Maxwell House 39 oz Coffee Container ("accused product")
1. A packaging system comprising:	According to the product label, the accused product is a packaging system for packaging 39 oz of custom roasted ground coffee.
a blow-molded container comprising a longitudinal axis, said blow-molded container further comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said top; [element a]	<p>The accused product is a blow-molded container having a longitudinal axis with a closed bottom, an open top, and a body having an enclosed perimeter between the bottom and top. <i>See also</i> P&G-KRAFT 004009-18, 004021-30.</p> <p align="center"><i>Longitudinal axis</i></p>  <p><i>See also</i> Kraft's Published U.S. Patent Application, Pub. No. US 2007/0187412 ("412 Publication") at [00042-43] and FIG. 14 (describing a container nearly identical to the Maxwell House container as having a base, four sides extending upward from the base and top connected to the sides so that the container defines a main interior volume to hold particulate coffee).</p>
wherein said bottom, top, and body together define an interior volume; [element b]	The bottom, top and body of the accused product define an interior volume that holds 39 oz of ground coffee. <i>See also</i> '412 Publication at [0042-43].
wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection disposed thereon, and where said region of deflection allows flexion and thereby has less resistance to flexing than the body of said	The body of the accused product comprises at least one region of deflection disposed on the body. The region of deflection allows flexion and thereby has less resistance to flexing than the body of the container proximate to the region of deflection. <i>See also</i> P&G-KRAFT 004009-18, 004021-30.

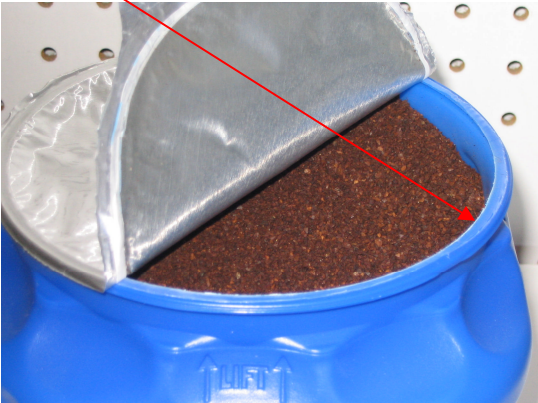

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U.S. Patent No. 7,169,419	Maxwell House 39 oz Coffee Container ("accused product")
<p>container proximate to said region of deflection; [element c]</p>	<div data-bbox="609 445 742 516" data-label="Text"> <p><i>region of deflection</i></p> </div> <div data-bbox="1057 291 1382 630" data-label="Image"> </div> <p>The existence of "ribs" proximate to the area identified as the region of deflection also confirms that the identified region of deflection has less resistance to flexing than the ribs because ribs "functions to provide structural stability and further restrict movement of the container to the regions of deflection." See Col. 7, line 38-62; Fig. 7 (numeral 45); compare with '412 Publication at [0056] (describing vertical and horizontal ribs next to the side panels that are used "to help prevent side panel warping and distortion.").</p> <div data-bbox="579 1031 638 1064" data-label="Text"> <p><i>ribs</i></p> </div> <div data-bbox="594 1073 943 1474" data-label="Image"> </div>

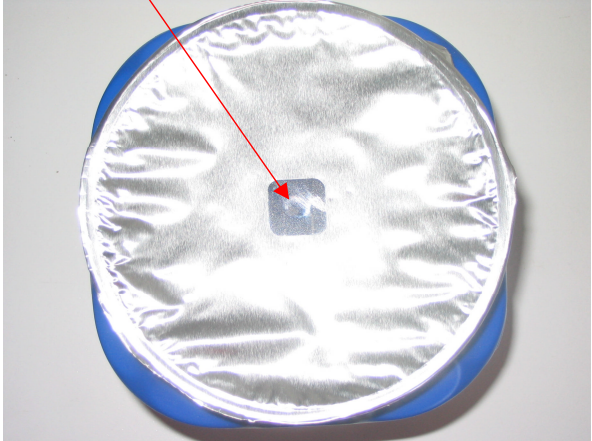
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	<p>Static pictures also show that the side panels flex when the internal pressure is less than ambient pressure</p>  <p>Internal pressure is a vacuum</p>  <p>Internal pressure is ambient</p> <p>Dynamic pressure tests also show that the side panels flex relative to the regions proximate to the side panels when the internal pressure is less than the ambient pressure. <i>See also</i> P&G-KRAFT 007685-86.</p>
<p>an outwardly facing annular protuberance disposed upon said body, said annular protuberance being continuously disposed around said perimeter of said body proximate to said top wherein said</p>	<p>The accused product has an outwardly facing annular protuberance disposed on the body. The protuberance is continuously disposed around the perimeter of the body proximate to the top. The protuberance forms a surface external to the body that is substantially perpendicular to the longitudinal axis.</p>



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<p>protuberance forms a surface external to said body, said surface being substantially perpendicular to said longitudinal axis; and [element d]</p>	<p>The protuberance is visible when the overcap is removed.</p> <p><i>protuberance</i></p> 
<p>a flexible closure removably attached and sealed to said annular protuberance; [element e]</p>	<p>The accused product has a flexible closure that is removably attached and sealed to the protuberance. The flexible closure is visible when the cover is removed.</p> <p><i>flexible closure</i></p> 
<p>wherein coffee is contained within said packaging system. [element f]</p>	<p>The accused product contains ground coffee.</p>
<p>2. The packaging system of claim 1 wherein said flexible closure comprises a laminate structure comprising at least one barrier layer.</p>	<p>The flexible closure shown of the accused product shown above has a laminate structure with a barrier layer. <i>See also</i> P&G-KRAFT 004021.</p>

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U.S. Patent No. 7,169,419	Maxwell House 39 oz Coffee Container ("accused product")
3. The packaging system of claim 2 wherein said laminate further comprises a foil.	The laminate structure of the accused product includes a foil. <i>See also</i> P&G-KRAFT 004021.
4. The packaging system of claim 1 wherein said flexible closure has a one-way valve disposed thereon.	<p>The accused product has a one-way valve on the foil material.</p> <p><i>one-way valve</i></p> 
5. The packaging system of claim 1 wherein said blow-molded container comprises a material selected from the group consisting of polycarbonate, linear low density polyethylene, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.	The labeling on the accused product indicates that the body and bottom are made of HDPE. According to P&G's testing, the Maxwell House container has a multi-layered material primarily comprising an interior layer of high density polyethylene (HDPE), a layer of ethylene vinyl alcohol copolymer (EVOH), and another layer of HDPE. The interior layer of HDPE is a polyolefin. The middle layer of EVOH is an oxygen barrier. The composition of multi-layered material was determined using differential scanning calorimetry, infrared analysis and microscopy. <i>See</i> P&G-KRAFT 004021-30.
6. The packaging system of claim 5 wherein said material is a multi-layered structure.	According to P&G's testing, the accused product has a multi-layered structure comprising HDPE and EVOH layers. <i>See</i> claim 5.
7. The packaging system	According to P&G's testing, the accused product has a multi-


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U.S. Patent No. 7,169,419	Maxwell House 39 oz Coffee Container ("accused product")
of claim 6 wherein said multi-layered structure further comprises at least one oxygen barrier layer.	layered material comprising a polyolefin (HDPE) layer that is proximate to the interior and an EVOH layer that is an oxygen barrier. <i>See</i> claim 5.
8. The packaging system of claim 1 wherein said body has a handle disposed thereon.	<p>The accused product has a handle disposed on the body.</p> 
9. The packaging system of claim 8 wherein said handle is integral with said body.	The accused product has a handle that is part of the body of the container. For example, the handle is integrated with the body so that the interior of the body and handle together hold ground coffee. <i>See</i> claim 1, element c; <i>see also</i> '412 Publication at [0059] ("As shown ... there is a pass-through handle 50e provided in a corner 48 of a container").
10. The packaging system of claim 8 wherein said handle is substantially parallel to said longitudinal axis of said container.	The accused product has a handle that is substantially parallel to the longitudinal axis of the container.
11. The packaging system of claim 1 further comprising an overcap.	 <p>The accused product has an overcap (gold cap).</p>
12. The packaging system of claim 11 wherein said overcap is constructed from a material selected from the group consisting of	The accused product has an overcap consisting of polypropylene. <i>See</i> P&G-Kraft 004021-30.

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<p>polycarbonate, linear low density polyethylene, low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polystyrene, polyvinyl chloride, co-polymers thereof, and combinations thereof.</p>	
<p>13. The packaging system of claim 11 wherein said overcap further comprises a first protuberance disposed upon said overcap, said protuberance being mateingly engageable with a second protuberance disposed upon said body of said container, wherein said overcap is releasably attached to said container upon the mating engagement of said first and second protuberances.</p>	<p>The overcap of the accused product has a first protuberance that interlocks closely with a second protuberance on the body of the container, and the overcap is releasably attached to the container when the first and second protuberances interlock. The overcap of the Kraft container refers to this interlocking feature with the phrases, "LIFT OFF SNAP BACK ON" and "FLAVOR LOCK CANISTER."</p>

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14. The packaging system of claim 11, wherein said overcap comprises a dome portion, said dome portion comprising a first surface, said first surface having at least one protuberance disposed thereon.	<p>The accused product has an overcap with a dome portion comprising a first surface wherein the first surface has at least one protuberance on it.</p> <p><i>dome portion first surface</i></p> <p><i>protuberance</i></p> 
15. The packaging system of claim 1 wherein said coffee is roast and ground.	See claim 1, element f.
16. The packaging system of claim 1, wherein said closed bottom of said container is concave inwardly.	The closed bottom of the Maxwell House container is concave inwardly.
17. A packaging system comprising:	See claim 1, preamble.
a blow-molded container comprising a longitudinal axis, said blow-molded container comprising a closed bottom, an open top, and a body having an enclosed perimeter between said bottom and said top;	See claim 1, element a.
wherein said bottom, top, and body together define an interior volume;	See claim 1, element b.

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wherein said body comprises at least one region of deflection disposed thereon, and wherein said region of deflection allows flexion and thereby has less resistance to flexing than the body of said container proximate to said region of deflection;	See claim 1, element c.
an outwardly facing protuberance disposed upon said body, said annular protuberance being continuously disposed around the perimeter of said body proximate to said top wherein said protuberance forms a surface external to said body, said surface being substantially perpendicular to said longitudinal axis; and	See claim 1, element d.
a flexible closure removably attached and sealed to said protuberance;	See claim 1, element e.
wherein said annular protuberance translates the force of a load of at least 16 pounds disposed upon said packaging system in a direction substantially parallel to said longitudinal axis and	According to P&G's testing of the accused product, the accused product translates the force of a load of at least 16 pounds disposed upon the packaging system in a direction substantially parallel to the longitudinal axis of the container. The top load capacity was determined in accordance with an industry accepted standard method, namely the method published by the Plastic Bottle Institute: Technical Bulletin PBI 3-1968 Rev. 2 - 1990. <i>See</i> P&G-KRAFT 004017-4018.
wherein coffee is contained within said packaging system.	The accused product contains coffee.
18. The packaging system of claim 17 wherein said blow-	According to P&G's testing of the accused product, the bottom and the body are made of a material having a tensile modulus ranging from 107,000 psi to 111,000 psi. More specifically,

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molded container is manufactured from a material having a tensile modulus ranging from at least about 35,000 pounds per square inch (2,381 atm) to at least about 650,000 pounds per square inch (4,230 atm).	based on testing of the Maxwell House container by a contracted third party engineering firm and its contracted laboratory, SAEC and Data Lab Point, respectively, the Maxwell House container has a tensile strength of about 107,000 psi to 111,000 psi. The tensile modulus was determined in accordance with industry accepted standard methods, namely ASTM D 638-02. <i>See</i> P&G-KRAFT 004010-4016.

PROOF OF SERVICE

STATE OF CALIFORNIA)
)
COUNTY OF LOS ANGELES) ss.:

I am employed in the County of Los Angeles, State of California. I am over the age of 18 and not a party to the within action. My business address is: 550 South Hope Street, Suite 1100, Los Angeles, California 90071.

On December 10, 2007, I served on the interested parties in said action the within:

**THE PROCTOR & GAMBLE COMPANY'S INITIAL DISCLOSURES PURSUANT TO
FED. R. CIV. P. 26(a)(1)**

by placing a true copy thereof in a sealed envelope(s) addressed as stated below and causing such envelope(s) to be deposited in the U.S. Mail at Los Angeles, California, and *via* Electronic Mail and Facsimile as described below:

Claude M. Stern, Esq.

Email: claudestern@quinnemanuel.com

Evette D. Pennypacker, Esq.

Email: evettepennypacker@quinnemanuel.com

QUINN EMANUEL URQUHART OLIVER & HEDGES, LLP

555 Twin Dolphin Drive, Suite 560

Redwood Shores, CA 94065-2139

Tel: (650) 801-5000

Fax: (650) 801-5100

- ☒ (MAIL) I am readily familiar with this firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. postal service on that same day in the ordinary course of business. I am aware that on motion of party served, service is presumed invalid if postal cancellation date or postage meter date is more than 1 day after date of deposit for mailing in affidavit.
- ☒ (ELECTRONIC MAIL) I am readily familiar with this firm's practice of collection and processing of document(s) to be transmitted by electronic mail and I caused such (document(s) on this date to be transmitted by electronic mail in PDF format to the offices of addressee(s) at the email addresses listed above.
- ☒ (FACSIMILE) I caused the foregoing document to be served by facsimile transmission to each interested party at the facsimile machine telephone number shown as stated above.

I declare under penalty of perjury that I am employed in the office of a member of the bar of this Court at whose direction the service was made and that the foregoing is true and correct.

Executed on December 10, 2007, at Los Angeles, California.

Patrice C. Gonzalez

(Type or print name)

Patrice C. Gonzalez
(Signature)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

KRAFT FOODS HOLDINGS, INC.,

Plaintiff,

v.

MEMORANDUM AND ORDER
07-cv-613-jcs

THE PROCTOR & GAMBLE COMPANY,

Defendant/Counterclaim Plaintiff

v.

KRAFT FOODS HOLDINGS, INC.,

Counterclaim Defendant

and

KRAFT FOODS GLOBAL, INC.

Third-Party Defendant.

Plaintiff Kraft Foods Holding, Inc. ("KFH") commenced this patent infringement action alleging that defendant the Proctor and Gamble Company ("P&G") has infringed on KFH's United States Patent number 7,074,443 (hereinafter the '443 patent) as infringement is defined under 35 U.S.C. § 271. P&G responded by filing a counterclaim and a third party complaint against KFH and Kraft Foods Global, Inc. ("Global") alleging that KFH and Global have infringed on P&G's United States Patent number 7,169,419 (hereinafter the '419 patent). Jurisdiction is based on 28 U.S.C. §§ 1331 and 1338(a). The matter is currently before the Court on plaintiff's motion to dismiss or in the alternative transfer or

stay defendant Proctor & Gamble Company's counterclaim and third party complaint. The following facts relevant to plaintiff's pending motion are undisputed.

BACKGROUND

Both KFH and Global (collectively "Kraft") are Delaware corporations with their principal places of business in Northfield, Illinois. P&G is an Ohio corporation with its principal place of business in Cincinnati, Ohio. Kraft and P&G are competitors in the United States market for ground roast coffee.

KFH is the assignee of the '443 patent, which is a patent directed to a spacing structure placed in the overcap of a coffee container to prevent the vent valve in the flexible peel-off lid on the container from being closed due to contact with the overcap. P&G is the assignee of both United States Patent number 7,169,418 (hereinafter the '418 patent) and the '419 patent. Both the '418 and '419 patents are directed to a packaging system to provide fresh packaged coffee.

Both the '418 and '419 patents share a parent patent application. The '418 patent arose completely from patent application number 10/155,338 (hereinafter the '338 application). The '419 patent was applied for as a "continuation-in-part" of the '338 application, which means that it repeats portions of the '338 application and adds new disclosures. Although the '419 patent mirrors the '418 patent in many ways it also has its differences.

One difference is the '419 patent's addition of a "stand-off [to] prevent blockage of a valve disposed on and/or within a flexible film" '419 patent col. 13, ll. 29-30.

On January 31, 2007 Kraft filed a petition for inter partes reexamination with the United States Patent and Trademark Office ("PTO") requesting that the '418 patent's claims be found invalid as obvious. The PTO denied Kraft's request. After the PTO denial, P&G filed an action against Kraft in the United States District Court for the Northern District of California alleging that sales of Kraft's 39-ounce plastic containers of Maxwell House brand coffee infringe the '418 patent (hereinafter the "California action"). P&G sought a preliminary injunction in the California action, but Judge Phyllis J. Hamilton ordered the case stayed until Kraft exhausted its appeal of the PTO's decision.

On October 26, 2007 KFH filed the current infringement action against P&G in the Western District of Wisconsin alleging that P&G's vented coffee container infringes on the '443 patent. On October 31, 2007 P&G filed its answer and asserted a counterclaim against KFH as well as a third party claim against Global alleging that sales of Kraft's 39-ounce plastic containers of Maxwell House brand coffee infringe on the '419 patent. On November 29, 2007 Kraft filed a motion to dismiss P&G's counterclaim and third party complaint without prejudice or in the alternative to stay the

counterclaim and third party complaint or transfer them to the Northern District of California.

MEMORANDUM

Kraft argues that P&G's counterclaim and third party claim must be dismissed without prejudice as duplicative of the California action. Kraft further argues that if dismissal is not appropriate then the counterclaim and third party claim should be stayed or transferred to the Northern District of California because the outcome concerning the '418 patent in the California action will affect an infringement determination concerning the '419 patent. Conversely, P&G argues that its counterclaim and third party claim for infringement of the '419 patent are correctly a part of the current action because the '419 patent addresses a similar invention as the '443 patent (i.e., the patent in suit).

Kraft's argument for dismissal without prejudice is not persuasive for such a dismissal would not serve judicial economy. Should P&G's counterclaim and third party claim for infringement of the '419 patent be dismissed without prejudice there is nothing preventing it from refiling the same claim in this Court and starting from the beginning. Accordingly, it would not serve judicial economy to dismiss the counterclaim and third party claim without prejudice.

Kraft's argument for a stay of P&G's infringement counterclaim and third party claim is also not persuasive. Should P&G's infringement claim be stayed pending determinations in the California action or pending determinations by the PTO, the claim could remain long after the infringement claim concerning the '443 patent is terminated. Having P&G's infringement claim pending here and in California serves no purpose. Accordingly, it does not serve judicial economy to stay P&G's counterclaim and third party claim.

What remains is Kraft's request that P&G's counterclaim and third party claim for infringement be transferred to the Northern District of California where it could be consolidated with the California action addressing infringement of the '418 patent. Before the Court could transfer the counterclaim and third party claim for infringement the claims would have to be severed from this case. Under Federal Rule of Civil Procedure 21 a court may sever any claim against a party. The Seventh Circuit has reasoned that "a district court may sever claims under Rule 21, creating two separate proceedings, so long as the two claims are 'discrete and separate,'" (i.e., "one claim must be capable of resolution despite the outcome of the other claim"). Gaffney v. Riverboat Serv. of Ind., Inc., 451 F.3d 424, 442 (7th Cir. 2006) cert. denied, 127 S. Ct. 933 (2007) (quoting Rice v. Sunrise Express, Inc., 209 F.3d 1008, 1016 (7th Cir. 2000)).

In this case, P&G's counterclaim and third party claim for infringement of the '419 patent are "discrete and separate" from Kraft's claim for infringement of the '443 patent. Kraft's infringement claim can be resolved regardless of the outcome of P&G's infringement claim. In fact, it is possible that Kraft's coffee container could infringe the '419 patent and that P&G's coffee container could infringe the '443 patent as well. Accordingly, severance of P&G's counterclaim and third party claim for infringement is permissible.

Severing P&G's counterclaim and third party claim for infringement allows the Court to address whether those claims should be transferred to the Northern District of California. A motion for transfer of venue is governed by 28 U.S.C. § 1404(a) which states: "[f]or the convenience of parties and witnesses, in the interest of justice, a district court may transfer any civil action to any other district or division where it might have been brought." For transfer of venue to be proper it must be established that the case might have been brought in the transferee district and that the transfer is for the convenience of parties and witnesses and in the interest of justice. See Coffey v. Van Dorn Iron Works, 796 F.2d 217, 220 (7th Cir. 1986). Here, there is no dispute that P&G could have brought its counterclaim and third party claim in the Northern District of California. Accordingly,

the Court's inquiry focuses solely on "the conveniences of parties and witnesses, in the interest of justice." 28 U.S.C. § 1404(a).

In ruling on Kraft's motion to transfer venue the Court must consider all circumstances of the case using the three statutory factors as place holders in its analysis. Coffey, 796 F.2d at 219. Also, Kraft, as the moving party, bears the burden to establish by reference the particular circumstances that the transferee forum is clearly more convenient. Id. at 219-220.

Kraft cannot claim the Northern District of California as its home forum. Also, the Western District of Wisconsin is not P&G's home forum which means that P&G's choice of forum receives no special deference. Doagle v. Bd. of Regents, 950 F. Supp. 258, 259 (N.D. Ill. 1997). The Court then accepts each party's assessment of its own convenience. Furthermore, no significant witnesses for whom in court testimony would be necessary are located within either district. Accordingly, the convenience of the parties and witnesses does not weigh in favor of either district and does not clearly favor transfer. See In re Nat'l Presto Indus., Inc., 347 F.3d 662, 665 (7th Cir. 2003).

The interests of justice factor is determinative in this case. See Coffey, 796 F.2d at 220. The interests of justice analysis involves the consideration of factors relating to "the efficient administration of the court system' not to the merits of the underlying dispute." Milwaukee Elec. Tool Corp. v. Black & Decker

(N.A.) Inc., 392 F. Supp. 2d 1062, 1065 (W.D. Wis. 2005) (quoting Coffey, 796 F.2d at 221). For example, two permissible factors are the likelihood of a speedy trial and the feasibility of consolidation of related litigation. Coffey, 796 F.2d at 221.

P&G argues that the interest of justice does not favor transfer because its counterclaim and third party claim for infringement of the '419 patent involves the same technology as Kraft's claim for infringement of the '443 patent. As previously explained P&G's infringement counterclaim and third party claim are discrete and separate from Kraft's infringement claim regardless of any similar technology. The separateness of the claims further supports that a detailed examination of the '419 patent is not necessary to address infringement of the '443 patent and vice versa. Also, the "technology" (i.e., a space in a cover to prevent the cover from touching and in effect closing a valve in a peel-off lid) is not complex but something that is easily comprehended by any judge. Accordingly, the similar technology involved does not support that the interests of justice disfavor transfer.

Although P&G mentions the speed of this Court's docket¹ as one reason why the interests of justice do not favor transfer, it does not elaborate why docket speed is necessary in this case. It is not disputed that the parties sell competing coffee containers but

¹P&G placed in a footnote that this district's median time to trial is 11.4 months compared to 27 months for the Northern District of California.

P&G does not explain why it could not be readily compensated by a reasonable royalty. Accordingly, P&G has failed to provide reasoning which supports giving much weight to the speedy trial factor. See Encyclopaedia Britannica, Inc. v. Magellan Navigation, Inc., 512 F. Supp. 2d 1169, 1176 (W.D. Wis. 2007).

Kraft argues that transfer will serve judicial economy because P&G's counterclaim and third party claim for infringement of the '419 patent can be consolidated with the California action. Transfer and consolidation of actions involving common questions of law or fact support judicial economy and favor transfer in the interests of justice. Id. The facts and circumstances surrounding P&G's counterclaim and third party claim for infringement of the '419 patent weigh heavily in favor of transfer to conserve judicial resources through consolidation.

First, it would serve practicality to consolidate P&G's counterclaim and third party claim with the California action. The parties in both actions are the same, i.e., P&G versus Kraft. Also, there will be common questions of law and fact because each action involves the same potentially infringing product, i.e., Kraft's 39-ounce plastic containers of Maxwell House brand coffee. The '418 and '419 patents in each action share claim language and a parent patent application, i.e., the '338 patent application.

Furthermore, discovery concerning the '418 and '419 patents will be intertwined. The history of each patent will require

information about the '338 patent application. Also, as a "continuation-in-part" the '419 patent shares a common inventor with the '418 patent and it shares drawings as well as specification and claim language. Accordingly, coordinating discovery in one district would promote efficiency among the parties as well as avoid duplication of discovery among the parties concerning related patents.

Finally, if P&G's counterclaim and third party claim for infringement of the '419 patent is not transferred and consolidated there remains a risk of inconsistent claim construction and inconsistent judgments. See Encyclopaedia, 512 F. Supp. 2d at 1177. The Federal Circuit has explained that in construing a term found in claims in separate patents that were formed from a parent patent application "it would be improper to construe [the] term differently in one patent than another, given their common ancestry." Abtox, Inc. v. Exitron Corp., 131 F.3d 1009, 1010 (Fed. Cir. 1997). The reasoning in Abtox requires that the terms found in the '419 patent which are also found in the '418 patent shall be construed to have the same meaning in both patents because they both refer to the '338 patent application as their parent patent application. Id. The requirement that terms be construed to have the same meaning in patents sharing a common ancestry means that separate construction of the '419 patent's claims that contain terms used in the '418 patent's claims could lead to inconsistent

claim construction and inconsistent judgments concerning the patents. Accordingly, having the same court construe the claims of the '418 patent as well as the claims of the '419 patent would provide a more efficient administration of the court system by avoiding both inconsistent claim construction and inconsistent judgments.

Based on the present facts and circumstances, balancing the weight of a speedier disposition in this district against the weight of transferring and consolidating P&G's counterclaim and third party claim with the California action in an effort to best serve judicial and litigant economy and efficiency, tips the scale overwhelmingly toward the interests of justice which favors transfer to the Northern District of California. Accordingly, Kraft has demonstrated that the Northern District of California is clearly the more convenient forum and its motion to transfer venue to that district must be granted.

ORDER

IT IS ORDERED that defendant's counterclaim and third party claim for infringement of the '419 patent is SEVERED from the current action.

IT IS FURTHER ORDERED that plaintiff's motion to transfer venue to the Northern District of California is GRANTED as it

relates to the severed counterclaim and third party claim for infringement of the '419 patent.

IT IS FURTHER ORDERED that plaintiff's motion to dismiss or stay is DENIED.

IT IS FURTHER ORDERED that defendant's motion for oral argument is DENIED as moot.

Entered this 24th day of January, 2008.

BY THE COURT:

/s/

JOHN C. SHABAZ
District Judge